SUBJECT INDEX

Absorption spectra

Anuradha Gupta, Dibyendu Talapatra, P. K. Majumdar, R. K. Mukherjee and Asok K. Banerjee 1269 Low temperature polarized absorption spectra for Ni^{2+} in trigonal $Ni_2CdCl_6 \cdot 12H_2O$ single crystals

Acenaphthylene

Hongxing He and T. R. Welberry 421 Calculation of elastic constants for crystalline acenaphthylene, $C_{12}H_8$, using semi-empirical atom–atom potentials

Acetophosphate glass

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in acetophosphate glass

Activation energy

Chul Hyun Yo, Cheol Woo Kim, Eun Seok Lee, Woong Bum Pyon and Jae Shi Choi 835 A study of the nonstoichiometry and electrical conductivity of gadolinium sesquioxide

Keu Hong Kim, Sung Ho Park, Jae Shi Choi and Kyung Woo Hyung 1019 Electrical conductivity of the solid solution $Th_xGd_{2-2x}O_{3-x}$

Kyung Moon Choi, Keu Hong Kim and Jae Shi Choi 1027 Electrical conductivity of the system ThO_2–Er_2O_3

M. M. Ibrahim, N. Afify, M. M. Hafiz and M. A. Mahmoud 1127 D.C. electrical conductivity of bulk specimens of the system $Bi_{1-x}Te_x$

M. A. Ahmed and F. A. Radwan 1385 Electrical conductivity of the compounds $(CH_2)_n(NH_3)_2FeCl_{4-x}Br_x$ ($n = 8$, 9 and 10, $x = 0$, 1 and 2)

Adamantines

David Cahen 103 Atomic radii in ternary adamantines

Alkali halides

M. L. Dalal, S. Sivaraman and Y. V. G. S. Murti 223 Space charge limited current (SCLC) in alkali halide crystals during electrolytic coloration

R. Rodríguez-Mijangos and C. Ruis Mejía 505 F band shift in mixed alkali halide crystals

Alkali metal

J. D. Foot, E. A. Colbourn and C. R. A. Catlow 1225 Computer simulation of alkali metal trapped hole defects in alkaline earth oxides

Alkaline earth oxide

J. D. Foot, E. A. Colbourn and C. R. A. Catlow 1225 Computer simulation of alkali metal trapped hole defects in alkaline earth oxides

Allowed transitions

A. K. Koh 993 Isotropic hyperfine coupling constant in manganese-doped $Cd_{1-x}Zn_xSe$

Alloys

S. R. Dhanalakshmi, T. Nagarajan, S. Ramasamy, S. Srinivasan and J. A. Sekhar 15 Positron annihilation and Mössbauer effect studies in rapidly solidified aluminium based iron misch metal alloys

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko 737 The solubility of interstitial impurities

J. Grammatikakis and C. A. Londos 1465 Compressibilities of niobium alloys

Aluminum

J. Grammatikakis, K. Eftaxias and V. Hadjicontis 1275 Interconnection of the diffusion coefficients of various elements in aluminium

Ammonium nitrate
R. A. Dalterio and F. J. Owens 1303 Laser Raman study of lattice modes of high temperature tetragonal to cubic transition in ammonium nitrate

Ammonium perchlorate
S. C. Deevi 323 Importance of local heating in the compaction of thermally sensitive solids

Ammonium sulphate
C. Edward Bailey 1287 An EPR study of NH_2D^+ in deuterated ammonium sulphate

Amorphism
Masaki Maeda and Takuro Ikeda 35 The glass transition and crystallization of amorphous $[xLi_2O \cdot (1-x)Na_2O]$–$2B_2O_3$

Amorphous silicon
Victor M. Ratag 9 The effect of bond-angle and dihedral-angle disorders on the top of the valence band of amorphous silicon

Anderson–Grüneisen
G. Perrin and M. Delannoy-Coutris 1379 Generalized Anderson–Grüneisen parameters for cubic solids

Anisotropic diffusion
S. Fujita 1107 General theory of anisotropic transport coefficients for single crystals

Anisotropic exchange
D. K. De and A. K. Goshal 1091 Studies of g_{tensor} and the role of anisotropic exchange interaction in the EPR linewidth of bis-semicarbazide copper(II) chloride

Anisotropic transport coefficients
S. Fujita 1107 General theory of anisotropic transport coefficients for single crystals

Annealing
D. C. Look and J. W. Farmer 97 The type-conversion phenomenon in electron-irradiated GaAs

Anthracene
El-Zeiny M. Ebeid and Ahmed M. Donia 263 Structural and photochemical transformations in anthracenes

Antiferromagnet
J. Zink and K. Nagorny 1429 Mössbauer spectroscopic investigations of the magnetic properties of potassium thioferrate-III

Antimony-phosphates
F. Taulelle, C. Sanchez, J. Livage, A. Lachgar and Y. Piffard 299 High resolution solid state ^{31}P NMR in some antimony-phosphates

Antisite defects
Z. Starý, J. Horák, M. Stordeur and M. Stölzer 29 Antisite defects in $Sb_{2-x}Bi_xTe_3$ mixed crystals

J. Horák, Z. Starý, P. Lošťák and J. Pancíř 191 Antisite defects in $Sb_{2-x}In_xTe_3$ mixed crystals

Apatite
N. Hitmi, C. LaCabanne and R. A. Young 541 OH^- reorientability in hydroxyapatites: effect of F^- and Cl^-

Astrophysics
G. L. Sewell 701 Gravitational thermodynamics and the generalized second law

Atom–atom potential
Hongxing He and T. R. Welberry 421 Calculation of elastic constants for crystalline acenaphthylene, $C_{12}H_8$, using semi-empirical atom–atom potentials

Atomic diffusion
S. Fujita and J. Neugebauer 561 General theory of interstitial diffusion in crystals

Auger effect

H. G. Grimmeiss and M. Kleverman 615 Local Auger effects at point defects in silicon

Auger recombination

A. Haug 599 Band-to-band Auger recombination in semiconductors

R. A. Abram, R. W. Kelsall and R. I. Taylor 607 Auger recombination in low-dimensional structures

E. Schöll 651 Nonequilibrium phase transitions and chaos in semiconductors

Auger transitions

A. R. Beattie 589 A lifetime in Auger transitions

ASW (augmented spherical wave theory)

R. Eppenga, M. F. H. Schuurmans and H. W. A. M. Rompa 1119 *Ab-initio* determinations of semiconductor spin-orbit splittings from ASW

Austenitic solid solutions

Clarence Ko and Rex B. McLellan 1219 Thermodynamics of austenitic Fe–Cu–N solid solutions

A-band emission

J. G. Kang, S. K. Ju, Y. H. Gill, I. K. Shim and C. K. Chang 813 Emission and excitation spectra from divalent Ge ions in KCl single crystals

Band structure

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

Sehun Kim and R. Stanley Williams 1307 Mixed-basis band structure interpolation scheme applied to the rock-salt structure compounds TiC, TiN and TiO

B.C.C. lattice

A. Sato, Y. Watanabe and T. Mura 529 Octahedral defects in a b.c.c. lattice examined by lattice theory

Beryllium

A. B. Vassilikou-Dova 855 Dipole aggregation in LiF doped with Be^{2+}

Bimetallic interfaces

N. Nafari and M. P. Das 997 A model for bimetallic interfaces—II

Binding energy

E. N. Maslen and M. G. Trefry 753 3*d* transition metals: electron promotion and the independent atom model

A. Erçelebi and U. Özdinçer 769 Impurity-bound electron in quantum well-heterostructure-type systems

Bipolaron

E. Iguchi, T. Yamamoto and R. J. D. Tilley 205 Bipolaron effects on the lattice energy of Ti_4O_7

Birefringence

K. J. Smolander 1167 Electrostatical properties of the ferroelectric phases of $KNbO_3$

Bismuth telluride

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer 1237 Thermal properties of high quality single crystals of bismuth telluride —Part I: experimental characterization

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer 1249 Thermal properties of high quality single crystals of bismuth telluride —Part II: mixed-scattering model

Bis-semicarbazide copper(II) chloride

D. K. De and A. K. Goshal 1091 Studies of g_{tensor} and the role of anisotropic exchange interaction in the EPR linewidth of bis-semicarbazide copper(II)

Black-body radiation

A. De Vos — 725 Thermodynamics of radiation energy conversion in one and in three physical dimensions

Black holes

G. L. Sewell — 701 Gravitational thermodynamics and the generalized second law

Bond-angle disorder

Victor M. Ratag — 9 The effect of bond-angle and dihedral-angle disorders on the top of the valence band of amorphous silicon

Bond strengths

P. P. Lottici, G. Antonioli and C. Razzetti — 1057 Bond strengths in defect chalcopyrite $ZnGa_2Se_4$ by temperature dependence of EXAFS

P. P. Lottici, G. Antonioli and C. Razzetti — 1459 An EXAFS study of the effective interactions between third neighbours in chalcopyrite $CuGaSe_2$

Bulk modulus

J. G. Grammatikakis, K. Eftaxias, S. Patapis and V. Hadjicontis — 965 A simple model applied to the elastic properties of the lead–thallium and magnesium–lithium alloys

S. K. Saxena — 1233 Assessment of thermal expansion, bulk modulus, and heat capacity of enstatite and forsterite

Cadmium tungstate

Z. Burshtein, S. Morgan, D. O. Henderson and E. Silberman — 1295 Spatial dispersion in polariton spectra of cadmium tungstate ($CdWO_4$) single crystals

Calcium ferrites

R. Gérardin, E. Millon, A. Bonazebi, J. F. Brice, F. Jeannot et O. Evrard — 343 Structures et propriétés magnétiques des ferrites de calcium pseudo hexagonaux $Ca_4Fe_9O_{17}$, $CaFe_4O_7$ et $Ca_3Fe_{15}O_{25}$

Calcium phosphates

Peter S. Belton, Robin K. Harris and Philip J. Wilkes — 21 Solid-state phosphorus-31 NMR studies of synthetic inorganic calcium phosphates

Calorimetry

J. C. Gachon — 435 A comparison between computed and measured enthalpies of formation of binary transition alloys. Accuracy and relativity of model predictions

Carbides

J. D. Birchall — 859 High strength ceramics: problems and possibilities

Carbon

S. Fujita and J. Neugebauer — 561 General theory of interstitial diffusion in crystals

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko — 737 The solubility of interstitial impurities

Carrier mobility

C. Rincón — 391 On the deformation potentials in $CuInSe_2$ ternary semiconductors

Cation distribution

A. N. Cormack, G. V. Lewis, S.C. Parker and C. R. A. Catlow — 53 On the cation distribution of spinels

Han-Ill Yoo and Harry L. Tuller — 761 Analytic calculation of cation distributions in ferrite spinel $Mn_{1-\gamma}Fe_{2+\gamma}O_4$

Cell model

P. K. Basu and Raymond D. Mountain — 587 Molecular dynamics evaluation of cell models for type I gas hydrate crystal dynamics

F-center

K. Chakrabarti — 1009 Photobleaching and photoluminescence in neutron-irradiated YAG

Ceramics

J. D. Birchall 859 High strength ceramics: problems and possibilities

Zuo-Guang Ye, R. Von Der Mühll, J. Ravez et P. Hagenmuller 1153 Etudes physico-chimiques d'une nouvelle phase hydroxo-fluorée ferroélectrique de type $LiTaO_3$

Cerium dioxide

M. Benzakour, R. Tetot and G. Boureau 381 Statistical thermodynamics of cerium dioxide

Chalcogenides

V. Leute and H. M. Schmidtke 409 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$—1. Investigations by X-ray diffraction and differential thermoanalysis

Chalcopyrite

H. A. Lauwers 173 The evaluation of the Scott effective charge in binary and chalcopyrite compounds

P. P. Lottici, G. Antonioli and C. Razzetti 1459 An EXAFS study of the effective interactions between third neighbours in chalcopyrite $CuGaSe_2$

Chaos

E. Schöll 651 Nonequilibrium phase transitions and chaos in semiconductors

Charge carriers

H. T. Chu 1191 Two-dimensional motion of charge carriers in ultrathin films

Charge densities

Sehun Kim and R. Stanley Williams 1307 Mixed-basis band structure interpolation scheme applied to the rock-salt structure compounds TiC, TiN and TiO

Charge transfer

K. M. E. Miedzinska, B. R. Hollebone and J. G. Cook 1355 Optical properties and assignment of the absorption spectra of sputtered mixed valence nickel oxide films

Chemical bonding

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

S. Mancour et P. Caillet 1071 Modes de vibration et liaisons chimiques dans des composés $M^{II}Mo_6X_{14}$

Chemical shift

A. R. Chetal, P. Mahto and P. R. Sarode 279 Chemical-shift of the X-ray K-absorption edge of Co in some compounds, complexes and minerals

F. Taulelle, C. Sanchez, J. Livage, A. Lachgar and Y. Piffard 299 High resolution solid state ^{31}P NMR in some antimony-phosphates

Chemisorption

F. J. Himpsel 3 Inverse photoemission

Chlorine

Colin L. Honeybourne, Callum A. S. Hill, Richard J. Ewen, M. S. Collings and William C. Clarke 1003 Substituent and metal-ion complexation effects upon the gas-surface interactions of thin organic films

Chromium trinuclear complex

Motohiro Nakano, Tomio Wakamatsu, Michio Sorai and Hiroshi Suga 987 Cluster pairing in the paramagnetic trinuclear complex compound $[Cr_3O(CH_3COO)_6(H_2O)_3]Cl \cdot 6H_2O$: calorimetric study at very low temperatures

Clay

H. Bidadi, P. A. Schroeder and Thomas J. Pinnavaia 1435 Dielectric properties of montmorillonite clay films: effects of water and layer charge reduction

CSVT (close-spaced vapor transport)

G. Massé, M. F. Lawrence and J. M. Lacroix 1349 Dominant donar trap in *n*-type epitaxial GaAs grown by CSVT

Mo_6 clusters

S. Mancour et P. Caillet 1071 Modes de vibration et liaisons chimiques dans des composés $M^{II}Mo_6X_{14}$

CNDO parameters

C. K. Ong and G. S. Khoo 883 Determination of CNDO parameters for germanium and their application to simple germanium molecules

Cobalt

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Cobalt arsenide

G. Kliche and W. Bauhofer 267 Far-infrared reflection spectra and electrical properties of the skutterudite $CoAs_3$

Cobalt compounds

A. R. Chetal, P. Mahto and P. R. Sarode 279 Chemical-shift of the X-ray K-absorption edge of Co in some compounds, complexes and minerals

Color Centers

M. L. Dalal, S. Sivaraman and Y. V. G. S. Murti 223 Space charge limited current (SCLC) in alkali halide crystals during electrolytic coloration

R. Rodríguez-Mijangos and C. Ruiz Mejía 505 F band shift in mixed alkali halide crystals

Compaction

S. C. Deevi 323 Importance of local heating in the compaction of thermally sensitive solids

Composites

V. Ya. Sukharev, V. V. Chistyakov and I. A. Myasnikov 333 Percolation electroconductivity of two-component barrier-disordered polycrystalline composites

II–VI compounds

B. A. Joyce 237 Molecular beam epitaxy: recent trends and future developments

G. Blanc 633 Test of a distribution for electron trap lifetimes in ZnS which is related to the maximum entropy principle

III–V compounds

B. A. Joyce 237 Molecular beam epitaxy: recent trends and future developments

Compound semiconductor

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

Compression

J. Grammatikakis and C. A. Londos 1465 Compressibilities of niobium alloys

Pouyan Shen and Lin-Gun Liu 1477 Phase behavior and compression of ZrO_2–5.04 wt.% CaO at high pressures

Computer simulations

A. N. Cormack, G. V. Lewis, S. C. Parker and C. R. A. Catlow 53 On the cation distribution of spinels

M. S. Islam and C. R. A. Catlow 119 Structural and electronic properties of $NiMn_2O_4$

P. K. Basu and Raymond D. Mountain 587 Molecular dynamics evaluation of cell models for type I gas hydrate crystal dynamics

J. D. Foot, E. A. Colbourn and C. R. A. Catlow 1225 Computer simulation of alkali metal trapped hole defects in alkaline earth oxides

Conduction mechanism

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and **Kazuo Fueki** 1409 Electrical properties of $La_{2-x}Sr_xCoO_4$—II: Models and analysis of the relationship between cobalt 3*d* electron state and structural, electrical and magnetic properties

Conductivity

H. Bidadi, P. A. Schroeder and **Thomas J. Pinnavaia** 1435 Dielectric properties of montmorillonite clay films: effects of water and layer charge reduction

Configurational states

C. A. Angell 863 Perspective on the glass transition

Copper

S. S. Goldenberg, M. D. Kellam and **L. M. Slifkin** 773 Luminescent recombination processes of the self-trapped hole in copper-doped silver chloride

B. I. Craig and **P. V. Smith** 957 A semi-empirical approach to the electronic structure of copper surfaces

L. Er-Rakho, C. Michel, F. Studer and **B. Raveau** 1101 The oxygen deficient perovskites $AFe_{1-x}Cu_xO_{2.5-x/2+\delta}$ (A = Sr, Ba) exhibiting mixed valence of iron and copper ions

Copper–gold alloys

P. Jacobsson and **B. Sundqvist** 441 Pressure dependence of the thermal and electrical conductivities of the intermetallic compounds AuCu and $AuCu_3$

Correlated walk

S. Fujita and **J. Neugebauer** 561 General theory of interstitial diffusion in crystals

S. Fujita 1107 General theory of anisotropic transport coefficients for single crystals

Covalent bond

L. C. Balbás, A. Rubio, J. A. Alonso, N. H. March and **G. Borstel** 1013 X-ray scattering factors of crystalline silicon and germanium from a bond charge model

Covalent radii

David Cahen 103 Atomic radii in ternary adamantines

Critical phenomenon

Takasuke Matsuo, Hai-Ke Yan and **Hiroshi Suga** 85 Calorimetric study of the phase transition in deuterated methylammonium hexachlorostannate

Crystal field

C. K. Jayasankar, F. S. Richardson, P. Porcher and **J. Ostorero** 975 Spin-correlated crystal-field analysis and temperature-dependent paramagnetic susceptibility of neodymium gallium garnet

Anuradha Gupta, Dibyendu Talapatra, P. K. Majumdar, R. K. Mukherjee and **Asok K. Banerjee** 1269 Low temperature polarized absorption spectra for Ni^{2+} in trigonal $Ni_2CdCl_6 \cdot 12H_2O$ single crystals

Crystal radii

David Cahen 103 Atomic radii in ternary adamantines

Crystal structures

R. Gérardin, E. Millon, A. Bonazebi, J. F. Brice, F. Jeannot et **O. Evrard** 343 Structures et propriétés magnétiques des ferrites de calcium pseudo hexagonaux $Ca_4Fe_9O_{17}$, $CaFe_4O_7$ et $Ca_3Fe_{15}O_{25}$

E. H. P. Cordfunke and **D. J. W. IJdo** 551 $Ba_2U_2O_7$: crystal structure and phase relationships

H. Haeuseler, W. Kwarteng-Acheampong and **M. Jung** 767 Crystal structure and electrical conductivity of $Ga_{1.78}Cr_{0.89}S_4$

Crystallization

Peter S. Belton, Robin K. Harris and **Philip J. Wilkes** 21 Solid-state phosphorus-31 NMR studies of synthetic inorganic calcium phosphates

Masaki Maeda and **Takuro Ikeda** 35 The glass transition and crystallization of amorphous $[xLi_2O \cdot (1-x)Na_2O]$–$2B_2O_3$

Curie temperature

Zheng Siming 1419 The Curie temperature of an anisotropic Heisenberg mixed spin system

9-cyanoanthracene

El-Zeiny M. Ebeid and Ahmed M. Donia 263 Structural and photochemical transformations in anthracenes

D.C. conductivity

A. L. Dawar, C. Jagadish, P. K. Shishodia, Sanjay Sharma, S. K. Kapoor, B. K. Sachar and P. C. Mathur 113 Effect of hydrogen on the electrical properties of p-type $Pb_{0.8}Sn_{0.2}Te$ thin films

Debye–Waller factor

P. P. Lottici, G. Antonioli and C. Razzetti 1057 Bond strengths in defect chalcopyrite $ZnGa_2Se_4$ by temperature dependence of EXAFS

P. P. Lottici, G. Antonioli and C. Razzetti 1459 An EXAFS study of the effective interactions between third neighbours in chalcopyrite $CuGaSe_2$

Deep levels

M. R. Burd and R. Baunstein 731 Deep levels in semi-insulating liquid encapsulated Czochralski-grown GaAs

DLTS (deep level transient spectroscopy)

G. Massé, M. F. Lawrence and J. M. Lacroix 1349 Dominant donor trap in n-type epitaxial GaAs grown by CSVT

Defects

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

A. L. Ivanovsky, D. L. Novikov, V. I. Anisimov and V. A. Gubanov 487 The influence of structural defects on the electron properties of interstitial alloys—III. Non-metal substitutional impurities

A. Halperin and S. Katz 577 Irradiation effects on the low-temperature thermoluminescence (TSL) of quartz crystals

Chul Hyun Yo, Cheol Woo Kim, Eun Seok Lee, Woong Bum Pyon and Jae Shi Choi 835 A study of the nonstoichiometry and electrical conductivity of gadolinium sesquioxide

C. K. Ong and G. S. Khoo 883 Determination of CNDO parameters for germanium and their application to simple germanium molecules

H. Chacham, J. L. A. Alves, M. L. De Siqueira and José R. Leite 969 Electronic structure of cationic core excitons in II–VI semiconductors

J. D. Foot, E. A. Colbourn and C. R. A. Catlow 1225 Computer simulation of alkali metal trapped hole defects in alkaline earth oxides

C. Edward Bailey 1287 An EPR study of NH_2D^- in deuterated ammonium sulphate

Defect chalcopyrites

P. P. Lottici, G. Antonioli and C. Razzetti 1057 Bond strengths in defect chalcopyrite $ZnGa_2Se_4$ by temperature dependence of EXAFS

Defect chemistry

Volkmar Leute and Heinrich Michael Schmidtke 1317 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3\delta)}In_{2\delta}Te_3$—II. Investigations by electron microprobe measurements

Defect levels

R. Rodríguez-Mijangos and C. Ruis Mejía 505 F band shift in mixed alkali halide crystals

Defect thermodynamics

Han-Ill Yoo and Harry L. Tuller 761 Analytic calculation of cation distributions in ferrite spinel $Mn_{1-\gamma}Fe_{2+\gamma}O_4$

Deformations

C. L. Roy and J. S. Pandey 1373 Surface states of a one-dimensional finite crystal with deformations at the surfaces

Deformation energy

E. Iguchi, T. Yamamoto and R. J. D. Tilley 205 Bipolaron effects on the lattice energy of Ti_4O_7

Deformation potential

C. M. Pelletier, S. Roland, R. Granger and A. Lasbley 139 Acoustical deformation potential and effective mass in *n*-type lead telluride between 4 and 300 K

C. Rincón 391 On the deformation potentials in $CuInSe_2$ ternary semiconductors

Density functional theory

L. C. Balbás, A. Rubio, J. A. Alonso, N. H. March and G. Borstel 1013 X-ray scattering factors of crystalline silicon and germanium from a bond charge model

Desegregation

J. du Plessis and G. N. van Wyk 1441 A model for surface segregation in multicomponent alloys—Part I: Equilibrium segregation

J. du Plessis and G. N. van Wyk 1451 A model for surface segregation in multicomponent alloys—Part II: Comment on other segregation analyses

Deuterates

P. Diatto, M. Martini and G. Spinolo 1139 Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

Deuteration

C. Edward Bailey 1287 An EPR study of NH_2D^- in deuterated ammonium sulphate

Deuterium

Minoru Ichimura, Hiroji Katsuta, Yasusi Sasajima and Mamoru Imabayashi 1259 Hydrogen and deuterium solubility in aluminum with voids

Diamond-cell

Jagannadham Akella, Gordon S. Smith and Andrew P. Jephcoat 573 High-pressure phase transformation studies in gadolinium to 106 GPa

Dielectric constant

K. J. Smolander 1167 Electrostatical properties of the ferroelectric phases of $KNbO_3$

H. Bidadi, P. A. Schroeder and Thomas J. Pinnavaia 1435 Dielectric properties of montmorillonite clay films: effects of water and layer charge reduction

Diffusion

M. Yoshihara and R. B. McLellan 401 Thermodynamic study of the palladium–yttrium–hydrogen system

N. G. van Kampen 673 Diffusion in inhomogeneous media

S. K. Pabi and H. Hahn 1035 A highly sensitive method for measurement of ^{222}Rn permeability in metals

A. T. Fromhold, Jr 1159 Growth rate of low-space-charge oxides on spherical metal particles

Rex B. McLellan 1213 The thermodynamics of interstitial–vacancy interactions in solid solutions

J. Grammatikakis, K. Eftaxias and V. Hadjicontis 1275 Interconnection of the diffusion coefficients of various elements in aluminum

Volkmar Leute and Heinrich Michael Schmidtke 1317 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$—II. Investigations by electron microprobe measurements

J. du Plessis and G. N. van Wyk 1441 A model for surface segregation in multicomponent alloys—Part I: Equilibrium segregation

J. du Plessis and G. N. van Wyk 1451 A model for surface segregation in multicomponent alloys—Part II: Comment on other segregation analyses

Diffusion theory

S. Fujita 41 Statistical mechanical theory of fast interstitial diffusion in metals

Dihalides hydrates

P. Diatto, M. Martini and G. Spinolo 1469 Far-infrared absorption spectra of Ni, Co and Fe dihalides hydrates

Dihedral-angle disorder

Victor M. Ratag 9 The effect of bond-angle and dihedral-angle disorders on the top of the valence band of amorphous silicon

Dimethylammonium nitrate

M. Mylrajan and T. K. K. Srinivasan 929 Raman and infrared studies of structural phase transition in $(CH_3)_2NH_2NO_3$

Dipolar interaction

D. K. De and A. K. Goshal 1091 Studies of g_{tensor} and the role of anisotropic exchange interaction in the EPR linewidth of bis-semicarbazide copper(II) chloride

OH dipoles

N. Hitmi, C. LaCabanne and R. A. Young 541 OH^- reorientability in hydroxyapatites: effect of F^- and Cl^-

Dipole aggregation

A. B. Vassilikou-Dova 855 Dipole aggregation in LiF doped with Be^{2+}

Dipole–dipole interaction

H. C. Kandpal and K. C. Joshi 555 Temperature-dependent energy transfer from $^5D_3$ and $^5D_4$ states of Tb^{3+} to Sm^{3+}

Dinitrogen tetroxide

Colin L. Honeybourne and Callum A. S. Hill 315 The chemical degradation of gas-sensing meso-tetra-arylporphin thin films by high levels of dinitrogen tetroxide

Colin L. Honeybourne, Callum A. S. Hill, Richard J. Ewen, M. S. Collings and William C. Clarke 1003 Substituent and metal-ion complexation effects upon the gas-surface interactions of thin organic film

Disorder

J. Mašek and J. Kudrnovský 349 Electron states in random substitutional alloys: the self-energy

Xi Xiao-Xing, Ran Qi-Ze, Liu Jia-Rui and Guan Wei-Yan 1125 Ion beam mixing: a new method in the study of metastable superconductors

Disperse systems

P. Arendt 511 The xerogel made from decomposing liquid metal–ammonia solutions —a solid material which carries current densities of 10^5 A cm^{-2} at room temperature

Distribution function

J. Wagensberg, D. López and J. Valls 695 Statistical aspects of biological organization

Doping effect

O. Yamamuro, M. Oguni, T. Matsuo and H. Suga 425 Calorimetric study of pure and KOH-doped tetrahydrofuran clathrate hydrate

Dominant donor trap

G. Massé, M. F. Lawrence and J. M. Lacroix 1349 Dominant donor trap in *n*-type epitaxial GaAs grown by CSVT

Dye

T. Endo, N. Nakada, T. Sato and M. Shimada 1423 Fluorescence of clay-intercalated xanthene dyes

Ecosystems

J. Wagensberg, D. López and J. Valls 695 Statistical aspects of biological organization

Effective charges

H. A. Lauwers 173 The evaluation of the Scott effective charge in binary and chalcopyrite compounds

A. R. Chetal, P. Mahto and P. R. Sarode 279 Chemical-shift of the X-ray K-absorption edge of Co in some compounds, complexes and minerals

Effective mass

C. M. Pelletier, S. Roland R. Granger and A. Lasbley 139 Acoustical deformation potential and effective mass in *n*-type lead telluride between 4 and 300 K

M. Oszwałdowski and M. Zimpel 1179 Temperature dependence of intrinsic carrier concentration and density of states effective mass of heavy holes in InSb

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer 1249 Thermal properties of high quality single crystals of bismuth telluride —Part II: mixed-scattering model

Elastic constants

Hongxing He and T. R. Welberry 421 Calculation of elastic constants for crystalline acenaphthylene, $C_{12}H_8$, using semi-empirical atom–atom potentials

Ali Tatli 981 Elastic constants of uvite: temperature dependence

T. K. Ballabh, Mala Paul and T. R. Middya 1175 Calculation of the pressure derivative of elastic constants for non-cubic polycrystals

J. Grammatikakis, K. Eftaxias and V. Hadjicontis 1275 Interconnection of the diffusion coefficients of various elements in aluminum

Elastic moduli

G. Perrin and M. Delannoy-Coutris 1397 Generalized Anderson–Grüneisen parameters for cubic solids

Electric dipole

Michael F. Reid 185 On the use of $\mathbf{E}\cdot\mathbf{r}$ and $\mathbf{A}\cdot\mathbf{p}$ in perturbation calculations of transition intensities for paramagnetic ions in solids

Electrical conductivity

Keu Hong Kim, Do Young Yim, Sung Ho Park and Jae Shi Choi 151 Electrical conductivity of the system $XZrO_2+(1-X)\ Er_2O_3$; $0.05 \leqslant X \leqslant 0.15$

J. Horák, Z. Starý, P. Lošťák and J. Pancíř 191 Antisite defects in $Sb_{2-x}In_xTe_3$ mixed crystals

V. Ya. Sukharev, V. V. Chistyakov and I. A. Myasnikov 333 Percolation electroconductivity of two-component barrier-disordered polycrystalline composites

P. Jacobsson and B. Sundqvist 441 Pressure dependence of the thermal and electrical conductivities of the intermetallic compounds AuCu and $AuCu_3$

C. Michel, L. Er-Rakho and B. Raveau 451 $La_{8-x}Sr_xCr_8O_{20-\epsilon}$: a metallic conductor belonging to the family of the oxygen-deficient perovskites

P. Arendt 511 The xerogel made from decomposing liquid metal–ammonia solutions —a solid material which carries current densities of $10^5\,A\,cm^{-2}$ at room temperature

H. Haeuseler, W. Kwarteng-Acheampong and M. Jung 767 Crystal structure and electrical conductivity of $Ga_{1.78}Cr_{0.89}S_4$

Chul Hyun Yo, Cheol Woo Kim, Eun Seok Lee, Woong Bum Pyon and Jae Shi Choi 835 A study of the nonstoichiometry and electrical conductivity of gadolinium sesquioxide

Keu Hong Kim, Sung Ho Park, Jae Shi Choi and Kyung Woo Hyung 1019 Electrical conductivity of the solid solution $Th_xGd_{2-2x}O_{3-x}$

Kyung Moon Choi, Keu Hong Kim and Jae Shi Choi 1027 Electrical conductivity of the system ThO_2–Er_2O_3

L. Er-Rakho, C. Michel, F. Studer and B. Raveau — 1101 — The oxygen deficient perovskites $AFe_{1-x}Cu_xO_{25-x/2+\delta}$ (A = Sr, Ba) exhibiting mixed valence of iron and copper ions

M. M. Ibrahim, N. Afify, M. M. Hafiz and M. A. Mahmoud — 1127 — D.C. electrical conductivity of bulk specimens of the system $Bi_{1-x}Te_x$

Rune Bredesen and Per Kofstad — 1205 — The electrical conductivity of ZrO_2-doped L-Ta_2O_5

M. A. Ahmed and F. A. Radwan — 1385 — Electrical conductivity of the compounds $(CH_2)_n(NH_3)_2FeCl_{4-x}Br_x$ ($n = 8$, 9 and 10, $x = 0$, 1 and 2)

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki — 1403 — Electrical properties of $La_{2-x}Sr_xCoO_4$—I: Structure, electrical conductivity, and Seebeck coefficient of single crystals ($x = 0.0$, 0.5, 1.0 and 1.5)

Electrical resistivity

Han-Ill Yoo and Harry L. Tuller — 761 — Analytic calculation of cation distributions in ferrite spinel $Mn_{1-\gamma}Fe_{2+\gamma}O_4$

Electrical transport

G. Kliche and W. Bauhofer — 267 — Far-infrared reflection spectra and electrical properties of the skutterudite $CoAs_3$

Electrolytic coloration

M. L. Dalal, S. Sivaraman and Y. V. G. S. Murti — 223 — Space charge limited current (SCLC) in alkali halide crystals during electrolytic coloration

Electron capture

J. S. Blakemore — 627 — Electron capture and emission for midgap centers

M. Devillers, J. Ladrière and D. Apers — 909 — ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

M. Devillers, J. Ladrière and D. Apers — 921 — Emission Mössbauer study of ^{57}Fe in ^{57}Ni-labelled nickel(II) oxalate dihydrate

Electron density

David Cahen — 103 — Atomic radii in ternary adamantines

Electron diffraction

B. A. Joyce — 237 — Molecular beam epitaxy: recent trends and future developments

Electron–hole recombination

S. S. Goldenberg, M. D. Kellam and L. M. Slifkin — 773 — Luminescent recombination processes of the self-trapped hole in copper-doped silver chloride

Electron-irradiation

D. C. Look and J. W. Farmer — 97 — The type-conversion phenomenon in electron-irradiated GaAs

Electron microprobe

Volkmar Leute and Heinrich Michael Schmidtke — 1317 — Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$—II. Investigations by electron microprobe measurements

Electron microscopy

W. Kowbel, P. G. Wapner and M. A. Wright — 1279 — A study of the oxidation of mesophase

EPR

J. I. Peña, P. J. Alonso and R. Alcalá — 273 — Radiation effects in hydrolysed CaF_2, SrF_2 and BaF_2

Jiang-Tsu Yu, Shen-Yuan Chou and Shu-Jeu Huang — 289 — Low-temperature phase transitions of $LiCsSO_4$: ESR of $\dot{N}H_3^+$ and Cr^{5+}

He Xiao-Peng and Du Mao-Lu — 339 — Theoretical studies on the EPR of $K_3Co(CN)_6$: Cr^{3+}

J. M. Dance, A. Wichainchai, P. Dordor, E. Marquestaut, J. P. Doumerc and A. Ammar — 377 — Determination of the zero field splitting and exchange narrowing of EPR linewidth in Cr^{3+} delafossite-type oxides

A. K. Koh 993 Isotropic hyperfine coupling constant in manganese-doped $Cd_{1-x}Zn_xSe$

D. K. De and A. K. Goshal 1091 Studies of g_{tensor} and the role of anisotropic exchange interaction in the EPR linewidth of bis-semicarbazide copper(II) chloride

Electron–phonon interaction

E. Iguchi, T. Yamamoto and R. J. D. Tilley 205 Bipolaron effects on the lattice energy of Ti_4O_7

Electron promotion

E. N. Maslen and M. G. Trefry 753 3*d* transition metals: electron promotion and the independent atom model

ESCA (electron spectroscopy for chemical analysis)

W. Kowbel, P. G. Wapner and M. A. Wright 1279 A study of the oxidation of mesophase

ESR

Jiang-Tsu Yu, Shen-Yuan Chou and Shu-Jeu Huang 289 Low-temperature phase transitions of $LiCsSO_4$: ESR of $\dot{N}H_3^+$ and Cr^{5+}

Electron surface states

B. I. Craig and P. V. Smith 957 A semi-empirical approach to the electronic structure of copper surfaces

Electron states

J. Mašek and J. Kudrnovský 349 Electron states in random substitutional alloys: the self-energy

Electron trap

G. Blanc 633 Test of a distribution for electron trap lifetimes in ZnS which is related to the maximum entropy principle

Electronic conduction

A. M. George and A. N. Virkar 743 Mixed iono-electronic conduction in β-$LaNb_3O_9$

Kyung Moon Choi, Keu Hong Kim and Jae Shi Choi 1027 Electrical conductivity of the system ThO_2–Er_2O_3

Electronic mobility

C. M. Pelletier, S. Roland, R. Granger and A. Lasbley 139 Acoustical deformation potential and effective mass in *n*-type lead telluride between 4 and 300 K

Electronic properties

M. S. Islam and C. R. A. Catlow 119 Structural and electronic properties of $NiMn_2O_4$

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

A. L. Ivanovsky, D. L. Novikov, V. I. Anisimov and V. A. Gubanov 487 The influence of structural defects on the electronic properties of interstitial alloys—III. Non-metal substitutional impurities

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki 1409 Electrical properties of $La_{2-x}Sr_xCoO_4$—II: Models and analysis of the relationship between cobalt 3*d* electron state and structural, electrical and magnetic properties

Electronic structure

A. Shluger, S. Mysovsky and A. Nepomnyaschikh 1043 Formation of self-trapped holes under optical excitation of impurity centres in LiF crystals

Electrostatic energy

E. N. Maslen and M. G. Trefry 753 3*d* transition metals: electron promotion and the independent atom model

Ellipsometry

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Emission spectra

J. G. Kang, S. K. Ju, Y. H. Gill, I. K. Shim and C. K. Chang 813 Emission and excitation spectra from divalent Ge ions in KCl single crystals

Energy gap

C. Rincón 391 On the deformation potentials in $CuInSe_2$ ternary semiconductors

Energy levels

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in aceto-phosphate glass

B. I. Craig and P. V. Smith 957 A semi-empirical approach to the electronic structure of copper surfaces

C. K. Jayasankar, F. S. Richardson, P. Porcher and J. Ostorero 975 Spin-correlated crystal-field analysis and temperature-dependent paramagnetic susceptibility of neodymium gallium garnet

Energy transfer

H. C. Kandpal and K. C. Joshi 555 Temperature-dependent energy transfer from $^5D_3$ and $^5D_4$ states of Tb^{3+} to Sm^{3+}

Enstatite

S. K. Saxena 1233 Assessment of thermal expansion, bulk modulus, and heat capacity of enstatite and forsterite

Enthalpy of formation

J. C. Gachon 435 A comparison between computed and measured enthalpies of formation of binary transition alloys. Accuracy and relativity of model predictions

Enthalpy prediction

J. C. Gachon 435 A comparison between computed and measured enthalpies of formation of binary transition alloys. Accuracy and relativity of model predictions

Entropy generation

P. Würfel 721 Generation of entropy by the emission of light

Epitaxial layers

V. Vorlíček, I. Gregora, V. Riede and H. Neumann 797 Raman scattering study of GaP:N epitaxial layers

Equation-of-state

Jagannadham Akella, Gordon S. Smith and Andrew P. Jephcoat 573 High-pressure phase transformation studies in gadolinium to 106 GPa

Europium

H. T. Hintzen and H. M. van Noort 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

Excess entropies

Rex B. McLellan 1213 The thermodynamics of interstitial–vacancy interactions in solid solutions

Exchange anisotropy

Zheng Siming 1419 The Curie temperature of an anisotropic Heisenberg mixed spin system

Exchange narrowing

J. M. Dance, A. Wichainchai, P. Dordor, E. Marquestaut, J. P. Doumerc and A. Ammar 377 Determination of the zero field splitting and exchange narrowing of EPR linewidth in Cr^{3+} delafossite-type oxides

Excitations

Manvir S. Kushwaha 165 Collective excitations in periodic semiconductor multihetero-structures

Lj. Mašković, V. Sajfert and M. M. Marinković 1329 Temperature behaviour of solitons in ferroelectrics of the order–disorder type

Excitation energy

J. Singh 667 Excitation transfer in crystalline solids

Excitation spectra

J. G. Kang, S. K. Ju, Y. H. Gill, I. K. Shim and C. K. Chang 813 Emission and excitation spectra from divalent Ge ions in KCl single crystals

Excitons

J. Singh 667 Excitation transfer in crystalline solids

H. Chacham, J. L. A. Alves, M. I. De Siqueira and José R. Leite 969 Electronic structure of cationic core excitions in II–VI semiconductors

EXAFS

P. P. Lottici, G. Antonioli and C. Razzetti 1057 Bond strengths in defect chalcopyrite $ZnGa_2Se_4$ by temperature dependence of EXAFS

P. P. Lottici, G. Antonioli and C. Razzetti 1459 An EXAFS study of the effective interactions between third neighbours in chalcopyrite $CuGaSe_2$

Extensivity

J. Dunning-Davies 705 Thermodynamics of non-extensive systems

Far-infrared

P. Diatto, M. Martini and G. Spinolo 1469 Far-infrared absorption spectra of Ni, Co and Fe dihalides hydrates

Far-infrared reflection spectra

G. Kliche and W. Bauhofer 267 Far-infrared reflection spectra and electrical properties of the skutterudite $CoAs_3$

Fast diffusion in metals

S. Fujita 41 Statistical mechanical theory of fast interstitial diffusion in metals

Fast ionic conductors

S. F. Matar, J. M. Reau, P. Laborde and A. Rhandour 285 Static modelling of the fast ion conductors β-$KBiF_4$ and γ-$RbBiF_4$

Ferrite

Han-Ill Yoo and Harry L. Tuller 761 Analytic calculation of cation distributions in ferrite spinel $Mn_{1-\gamma}Fe_{2+\gamma}O_4$

Ferro–antiferromagnetic transitions

J. Sjöström 827 Magnetic instability and crystalline field anisotropy in the space group $P\bar{6}2m$ with application to Fe_2P

Ferroelectricity

Zuo-Guang Ye, R. Von Der Mühll, J. Ravez et P. Hagenmuller 1153 Etudes physico-chimiques d'une novelle phase hydroxofluorée ferroélectrique de type $LiTaO_3$

K. J. Smolander 1167 Electrostatical properties of the ferroelectric phases of $KNbO_3$

B. S. Tošić, J. P. Šetrajčić, D. Lj. Mirjanić and R. P. Djajić 1187 Symmetry breaking in order–disorder ferroelectrics and temperature effects

Lj. Mašković, V. Sajfert and M. M. Marinković 1329 Temperature behaviour of solitons in ferroelectrics of the order–disorder type

Ferromagnetic ordering

A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

Figure of merit

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer 1237 Thermal properties of high quality single crystals of bismuth telluride —Part I: experimental characterization

Films

Xi Xiao-Xing, Ran Qi-Ze, Liu Jia-Rui and Guan Wei-Yan — 1125 — Ion beam mixing: a new method in the study of metastable superconductors

H. Bidadi, P. A. Schroeder and Thomas J. Pinnavaia — 1435 — Dielectric properties of montmorillonite clay films: effects of water and layer charge reduction

Finite crystal

C. L. Roy and J. S. Pandey — 1373 — Surface states of a one-dimensional finite crystal with deformations at the surfaces

Finite strain

G. Perrin and M. Dellannoy-Coutris — 1397 — Generalized Anderson–Grüneisen parameters for cubic solids

Fission products

D. A. MacInnes and P. W. Winter — 143 — The effect of the chemically inert fission products on the chemistry of irradiated UO_2

Fluctuations

F. Schlögl — 679 — Thermodynamic uncertainty relation

B. H. Lavenda — 685 — On the phenomenological basis of statistical thermodynamics

Fluorescence

T. Endo, N. Nakada, T. Sato and M. Shimada — 1423 — Fluorescence of clay-intercalated xanthene dyes

Fluorides

S. F. Matar, J. M. Reau, P. Laborde and A. Rhandour — 285 — Static modelling of the fast ion conductors β-$KBiF_4$ and γ-$RbBiF_4$

Andrzej Król and Krzysztof Świątek — 1197 — Long-wavelength optical lattice vibrations in $Mn_xCd_{1-x}F_2$ fluorides

Fluorite

J. I. Peña, P. J. Alonso and R. Alcalá — 273 — Radiation effects in hydrolysed CaF_2, SrF_2 and BaF_2

Forbidden transitions

A. K. Koh — 993 — Isotropic hyperfine coupling constant in manganese-doped $Cd_{1-x}Zn_xSe$

Force sum-rule

N. Nafari and M. P. Das — 997 — A model for bimetallic interfaces—II

Formation energy

Z. Starý, J. Horák, M. Stordeur and M. Stölzer — 29 — Antisite defects in $Sb_{2-x}Bi_xTe_3$ mixed crystals

Formula weight

T. L. Yeap and A. K. Koh — 1377 — Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

Forsterite

S. K. Saxena — 1233 — Assessment of thermal expansion, bulk modulus, and heat capacity of enstatite and forsterite

Free radicals

Jiang-Tsu Yu, Shen-Yuan Chou and Shu-Jeu Huang — 289 — Low-temperature phase transitions of $LiCsSO_4$: ESR of $\dot{N}H_3^+$ and Cr^{5+}

Gadolinium

Jagannadham Akella, Gordon S. Smith and Andrew P. Jephcoat — 573 — High-pressure phase transformation studies in gadolinium to 106 GPa

Gadolinium sesquioxide

Chul Hyun Yo, Cheol Woo Kim, Eun Seok Lee, Woong Bum Pyon and Jae Shi Choi — 835 — A study of the nonstoichiometry and electrical conductivity of gadolinium sesquioxide

Gallium arsenide

J. S. Blakemore — 627 — Electron capture and emission for midgap centers

W. A. Oates and H. Wenzl — 1363 — Temperature–chemical potential diagrams for the representation of defect and phase equilibria in compound semiconductors—application to gallium arsenide

Gallium chromium sulphide

H. Haeuseler, W. Kwarteng-Acheampong and M. Jung — 767 — Crystal structure and electrical conductivity of $Ga_{1.78}Cr_{0.89}S_4$

Gas hydrate crystal

P. K. Basu and Raymond D. Mountain — 587 — Molecular dynamics evaluation of cell models for type I gas hydrate crystal dynamics

Gas sensor

Colin L. Honeybourne and Callum A. S. Hill — 315 — The chemical degradation of gas-sensing meso-tetra-arylporphin thin films by high levels of dinitrogen tetroxide

Gel

P. Arendt — 511 — The xerogel made from decomposing liquid metal–ammonia solutions —a solid material which carries current densities of 10^5 A cm^{-2} at room temperature

Germanium

C. K. Ong and G. S. Khoo — 883 — Determination of CNDO parameters for germanium and their application to simple germanium molecules

L. C. Balbás, A. Rubio, J. A. Alonso, N. H. March and G. Borstel — 1013 — X-ray scattering factors of crystalline silicon and germanium from a bond charge model

Gillespite

Zhou Yi-Yang — 851 — Spectra of gillespite, $BaFeSi_4O_{10}$, at high pressure

Glass transition

Masaki Maeda and Takuro Ikeda — 35 — The glass transition and crystallization of amorphous $[xLi_2O \cdot (1-x)Na_2O]$–$2B_2O_3$

C. A. Angell — 863 — Perspective on the glass transition

Graphite intercalation compounds

H. Murakami, I. Kanazawa, M. Sano, T. Enoki and H. Inokuchi — 457 — Hydrogen in a graphite–rubidium intercalation compound RbC_8 studied by positron annihilation

Gravitation

G. L. Sewell — 701 — Gravitational thermodynamics and the generalized second law

Growth kinetics

B. A. Joyce — 237 — Molecular beam epitaxy: recent trends and future developments

Grüneisen parameters

Ali Tatli — 981 — Elastic constants of uvite: temperature dependence

Hall coefficient

A. L. Dawar, C. Jagadish, P. K. Shishodia, Sanjay Sharma, S. K. Kapoor, B. K. Sachar and P. C. Mathur — 113 — Effect of hydrogen on the electrical properties of p-type $Pb_{0.8}Sn_{0.2}Te$ thin films

Hall effect

D. C. Look and J. W. Farmer — 97 — The type-conversion phenomenon in electron-irradiated GaAs

J. Horák, Z. Starý, P. Lošťák and J. Pancíř — 191 — Antisite defects in $Sb_{2-x}In_xTe_3$ mixed crystals

Hall factor

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer — 1249 — Thermal properties of high quality single crystals of bismuth telluride —Part II: mixed-scattering model

Hall measurements

M. Oszwaldowski and M. Zimpel — 1179 Temperature dependence of intrinsic carrier concentration and density of states effective mass of heavy holes in InSb

Heat capacity

Takasuke Matsuo, Hai-Ke Yan and Hiroshi Suga — 85 Calorimetric study of the phase transition in deuterated methylammonium hexachlorostannate

O. Yamamuro, M. Oguni, T. Matsuo and H. Suga — 425 Calorimetric study of pure and KOH-doped tetrahydrofuran clathrate hydrate

Motohiro Nakano, Tomio Wakamatsu, Michio Sorai and Hiroshi Suga — 987 Cluster pairing in the paramagnetic trinuclear complex compound $[Cr_3O(CH_3COO)_6(H_2O)_3]Cl \cdot 6H_2O$: calorimetric study at very low temperatures

K. Chhor, L. Abello, C. Pommier and C. Sourisseau — 1079 Reorientational motions in a perovskite-type layer compound $[NH_3(CH_2)_5NH_3]MnCl_4$. A calorimetric study

S. K. Saxena — 1233 Assessment of thermal expansion, bulk modulus, and heat capacity of enstatite and forsterite

Heat of transport

Han-Ill Yoo and B. J. Wuensch — 253 Irreversible thermodynamic analyses of nonisothermal isotopic interdiffusion in ionic solids

Heavy holes

M. Oszwaldowski and M. Zimpel — 1179 Temperature dependence of intrinsic carrier concentration and density of states effective mass of heavy holes in InSb

Heisenberg mixed spin system

Zheng Siming — 1419 The Curie temperature of an anisotropic Heisenberg mixed spin system

Heterogeneous equilibria

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri — 1339 Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

Hexafluoroaluminate

Kiyofumi Hirokawa and Yoshihiro Furukawa — 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with compositions of $(NH_4)_{3-x}K_x[AlF_6]$ ($x = 1, 2$) as studied by ^1H, ^{19}F, and ^{27}Al nuclear magnetic resonance

High pressure

He Xiao-Peng and Du Mao-Lu — 339 Theoretical studies on the EPR of $K_3Co(CN)_6:Cr^{3+}$

Jun Qing Lu, Guo Xiang Lan, Bing Li, Yan Yong Yang, Hua Fu Wang and Bai Chang Wu — 519 Raman scattering study of the single crystal β-BaB_2O_4 under high pressures

Jagannadham Akella, Gordon S. Smith and Andrew P. Jephcoat — 573 High-pressure phase transformation studies in gadolinium to 106 GPa

Zhou Yi-Yang — 851 Spectra of gillespite, $BaFeSi_4O_{10}$, at high pressure

Pouyan Shen and Lin-Gun Liu — 1477 Phase behavior and compression of ZrO_2–5.04 wt.% CaO at high pressures

Hole traps

S. S. Goldenberg, M. D. Kellam and and L. M. Slifkin — 773 Luminescent recombination processes of the self-trapped hole in copper-doped silver chloride

Hopping conduction

M. S. Islam and C. R. A. Catlow — 119 Structural and electronic properties of $NiMn_2O_4$

S. A. Akbar — 585 Hopping conduction in Na-β-alumina: temperature dependence

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki — 1409 Electrical properties of $La_{2-x}Sr_xCoO_4$—II: Models and analysis of the relationship between cobalt 3*d* electron state and structural, electrical and magnetic properties

Hydrates

P. Diatto, M. Martini and G. Spinolo 1139 Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

Hydroxofluoride

Zuo-Guang Ye, R. Von Der Mühll, J. Ravez et P. Hagenmuller 1153 Etudes physico-chimiques d'une nouvelle phase hydroxofluorée ferroélectrique de type $LiTaO_3$

Hydrogen

A. L. Dawar, C. Jagadish, P. K. Shishodia, Sanjay Sharma, S. K. Kapoor, B. K. Sachar and P. C. Mathur 113 Effect of hydrogen on the electrical properties of p-type $Pb_{0.8}Sn_{0.2}Te$ thin films

M. Yoshihara and R. B. McLellan 401 Thermodynamic study of the palladium–yttrium–hydrogen system

H. Murakami, I. Kanazawa, M. Sano, T. Enoki and H. Inokuchi 457 Hydrogen in a graphite–rubidium intercalation compound RbC_8 studied by positron annihilation

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko 737 The solubility of interstitial impurities

G. Yaron, Y. Goldstein, A. Many, S. Z. Weisz and O. Resto 887 Persistent photoenhancement of hydrogen-implanted quantized accumulation layers on ZnO surfaces

Minoru Ichimura, Hiroji Katsuta, Yasusi Sasajima and Mamoru Imabayashi 1259 Hydrogen and deuterium solubility in aluminum with voids

Hydrogen bond

P. Diatto, M. Martini and G. Spinolo 1139 Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

P. Diatto, M. Martini and G. Spinolo 1469 Far-infrared absorption spectra of Ni, Co and Fe dihalides hydrates

Hydrogen chloride

Colin L. Honeybourne, Callum A. S. Hill, Richard J. Ewen, M. S. Collings and William C. Clarke 1003 Substituent and metal-ion complexation effects upon the gas-surface interactions of thin organic films

Hydrogen diffusivity

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba 897 The diffusivity of hydrogen in nickel-based solid solutions

Hydrogenic impurity

A. Erçelebi and U. Özdinçer 769 Impurity-bound electron in quantum well-heterostructure-type systems

Hyperfine interactions

W. Meisel, J. Mintjens and W. P. Bosman 157 Hyperfine interactions in an oxonium ferric orthophosphate

Hydroxyapatite

N. Hitmi, C. LaCabanne and R. A. Young 541 OH^- reorientability in hydroxyapatites: effect of F^- and Cl^-

Impact ionization

E. Schöll 651 Nonequilibrium phase transitions and chaos in semiconductors

Implantation

G. Yaron, Y. Goldstein, A. Many, S. Z. Weisz and O. Resto 887 Persistent photoenhancement of hydrogen-implanted quantized accumulation layers on ZnO surfaces

Impurities

R. Rodríguez-Mijangos and C. Ruiz Mejía 505 F band shift in mixed alkali halide crystals

Impurity centres

A. Shluger, S. Mysovsky and A. Nepomnyaschikh 1043 Formation of self-trapped holes under optical excitation of impurity centres in LiF crystals

Impurity diffusion

H. Boussetta and C. Monty — 369 — Magnesium impurity diffusion in $Co_{1-x}O$ single crystals

Infrared

M. Mylrajan and T. K. K. Srinivasan — 929 — Raman and infrared studies of structural phase transition in $(CH_3)_2NH_2NO_3$

Infrared absorption

P. Diatto, M. Martini and G. Spinolo — 1139 — Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

Infrared reflection

Z. Burshtein, S. Morgan, D. O. Henderson and E. Silberman — 1295 — Spatial dispersion in polariton spectra of cadmium tungstate ($CdWO_4$) single crystals

Infrared spectra

Andrzej Król and Krzysztof Świątek — 1197 — Long-wavelength optical lattice vibrations in $Mn_xCd_{1-x}F_2$ fluorides

Inhomogeneous media

N. G. van Kampen — 673 — Diffusion in inhomogeneous media

Instability

K. A. Shore — 659 — Non-linearities in laser diodes

Intercalation

T. Endo, N. Nakada, T. Sato and M. Shimada — 1423 — Fluorescence of clay-intercalated xanthene dyes

Intercluster interaction

Motohiro Nakano, Tomio Wakamatsu, Michio Sorai and Hiroshi Suga — 987 — Cluster pairing in the paramagnetic trinuclear complex compound $[Cr_3O(CH_3COO)_6(H_2O)_3]Cl \cdot 6H_2O$: calorimetric study at very low temperatures

Interdiffusion

Han-Ill Yoo and B. J. Wuensch — 253 — Irreversible thermodynamic analyses of nonisothermal isotopic interdiffusion in ionic solids

Interfaces

B. A. Joyce — 237 — Molecular beam epitaxy: recent trends and future developments

Interfacial energies

N. Nafari and M. P. Das — 997 — A model for bimetallic interfaces—II

Interstitial

Keu Hong Kim, Sung Ho Park, Jae Shi Choi and Kyung Woo Hyung — 1019 — Electrical conductivity of the solid solution $Th_xGd_{2-2x}O_{3-x}$

Interstitial alloys

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov — 465 — The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov — 479 — The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

A. L. Ivanovsky, D. L. Novikov, V. I. Anisimov and V. A. Gubanov — 487 — The influence of structural defects on the electronic properties of interstitial alloys—III. Non-metal substitutional impurities

Interstitial diffusion

S. Fujita — 41 — Statistical mechanical theory of fast interstitial diffusion in metals

S. Fujita and J. Neugebauer — 561 — General theory of interstitial diffusion in crystals

Interstitial impurities

A. L. Ivanovsky, D. L. Novikov, V. I. Anisimov and V. A. Gubanov — 487 — The influence of structural defects on the electronic properties of interstitial alloys—III. Non-metal substitutional impurities

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko — 737 — The solubility of interstitial impurities

Interstitial solution
Rex B. McLellan 1213 The thermodynamics of interstitial–vacancy interactions in solid solutions

Intrinsic carrier concentration
M. Oszwałdowski and M. Zimpel 1179 Temperature dependence of intrinsic carrier concentration and density of states effective mass of heavy holes in InSb

Inverse photoemission
F. J. Himpsel 3 Inverse photoemission

Ion beam mixing
Xi Xiao-Xing, Ran Qi-Ze, Liu Jia-Rui and Guan Wei-Yan 1125 Ion beam mixing: a new method in the study of metastable superconductors

Ionicity
A. K. Koh 993 Isotropic hyperfine coupling constant in manganese-doped $Cd_{1-x}Zn_xSe$

Ionic motion
Kiyofumi Hirokawa and Yoshihiro Furukawa 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with compositions of $(NH_4)_{3-x}K_x[AlF_6]$ ($x = 1, 2$) as studied by ^1H, ^{19}F, and ^{27}Al nuclear magnetic resonance

Ionic transport
A. T. Fromhold, Jr 1159 Growth rate of low-space-charge oxides on spherical metal particles

Iron
L. Er-Rakho, C. Michel, F. Studer and B. Raveau 1101 The oxygen deficient perovskites $AFe_{1-x}Cu_xO_{2.5-x/2+\delta}$ (A = Sr, Ba) exhibiting mixed valence of iron and copper ions

α-iron
S. Fujita and J. Neugebauer 561 General theory of interstitial diffusion in crystals

Iron corrosion
P. L. Crouse and C. M. Stander 1145 A conversion electron Mössbauer spectroscopic study of iron fluoride hydrate surface layers at low glancing angles

Iron fluoride hydrates
P. L. Crouse and C. M. Stander 1145 A conversion electron Mössbauer spectroscopic study of iron fluoride hydrate surface layers at low glancing angles

Iron spinels
H. Eckert, C. J. Chen, M. Greenblatt and R. H. Herber 71 Electron hopping in lithiated spinels: a temperature dependent Mössbauer study

γ-irradiation
K. Chakrabarti 1009 Photobleaching and photoluminescence in neutron-irradiated YAG

Irradiation
A. Halperin and S. Katz 577 Irradiation effects on the low-temperature thermoluminescence (TSL) of quartz crystals

Isotopic mass effect
Minoru Ichimura, Hiroji Katsuta, Yasusi Sasajima and Mamoru Imabayashi 1259 Hydrogen and deuterium solubility in aluminum with voids

Isotropic exchange
D. K. De and A. K. Goshal 1091 Studies of g_{tensor} and the role of anisotropic exchange interaction in the EPR linewidth of bis-semicarbazide copper(II) chloride

Isotropic hyperfine coupling
A. K. Koh 993 Isotropic hyperfine coupling constant in manganese-doped $Cd_{1-x}Zn_xSe$

Kinetics

V. Leute and H. M. Schmidtke 409 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$–I. Investigations by X-ray diffraction and differential thermoanalysis

A. B. Vassilikou-Dova 855 Dipole aggregation in LiF doped with Be^{2+}

Tinh Nguyet Nguyen and Mieczysław Tadeusz Borowiec 1379 The kinetics of photochromic effect in $Bi_{12}SiO_{20}$:Mn

Laser crystal

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski 199 Optical properties and lasing of $BaLaGa_3O_7$ single crystals doped with neodymium

Laser diodes

K. A. Shore 659 Non-linearities in laser diodes

Laser lines

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in aceto-phosphate glass

Lattice dynamics

D. Prakash and J. C. Upadhyaya 91 Many-body forces in the lattice dynamics of some fcc transition metals

Victor A. Maroni 307 Valence force field treatment of the rutile structure at zero-wave vector

Lattice energy

E. Iguchi, T. Yamamoto and R. J. D. Tilley 205 Bipolaron effects on the lattice energy of Ti_4O_7

Lattice modes

R. A. Dalterio and F. J. Owens 1303 Laser Raman study of lattice modes of high temperature tetragonal to cubic transition in ammonium nitrate

Lattice parameter

W. Lengauer 59 Interdependency of composition and T_c of δ-VN_{1-x} and the influence and determination of its nitrogen surface diffusion layers

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki 1403 Electrical properties of $La_{2-x}Sr_xCoO_4$—I: Structure, electrical conductivity, and Seebeck coefficient of single crystals ($x = 0.0$, 0.5, 1.0 and 1.5)

Lattice theory

A. Sato, Y. Watanabe and T. Mura 529 Ocahedral defects in a b.c.c. lattice examined by lattice theory

Lattice vibration

Andrzej Król and Krzysztof Świątek 1197 Long-wavelength optical lattice vibrations in $Mn_xCd_{1-x}F_2$ fluorides

Layered phases

H. Haeuseler, W. Kwarteng-Acheampong and M. Jung 767 Crystal structure and electrical conductivity of $Ga_{1.78}Cr_{0.89}S_4$

Lead–thallium alloys

J. G. Grammatikakis, K. Eftaxias, S. Patapis and V. Hadjicontis 965 A simple model applied to the elastic properties of the lead–thallium and magnesium–lithium alloys

Lifetime

A. R. Beattie 589 A lifetime in Auger transitions

G. Blanc 633 Test of a distribution for electron trap lifetimes in ZnS which is related to the maximum entropy principle

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in aceto-phosphate glass

Ligand field splitting

Chikara Sugiura, Michihide Kitamura and Shinji Muramatsu 1095 Niobium L_{III} and L_{II} X-ray absorption-edge spectra of Nb_2O_5 and NH_4NbF_6

Light absorption

P. Würfel 721 Generation of entropy by the emission of light

Light emission

P. Würfel 721 Generation of entropy by the emission of light

Lithium fluoride

A. B. Vassilikou-Dova 855 Dipole aggregation in LiF doped with Be^{2+}

Lithium sulfate

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba 897 The diffusivity of hydrogen in nickel-based solid solutions

Lithium tantalate

Zuo-Guang Ye, R. Von Der Mühll, J. Ravez et P. Hagenmuller 1153 Etudes physico-chimiques d'une nouvelle phase hydroxofluorée ferroélectrique de type $LiTaO_3$

Local heating

S. C. Deevi 323 Importance of local heating in the compaction of thermally sensitive solids

Local vibrational mode

V. Vorlíček, I. Gregora, V. Riede and H. Neumann 797 Raman scattering study of GaP:N epitaxial layers

Localized states

Victor M. Ratag 9 The effect of bond-angle and dihedral-angle disorders on the top of the valence band of amorphous silicon

Luminescence

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski 199 Optical properties and lasing of $BaLaGa_3O_7$ single crystals doped with neodymium

L. De Luca, U. Giorgianni, P. Perillo and G. Saitta 363 Spectroscopic studies of complex ion centres in thallium bromide solutions

H. T. Hintzen and H. M. van Noort 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

K. Chakrabarti 1009 Photobleaching and photoluminescence in neutron-irradiated YAG

Luminescence lifetime

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski 199 Optical properties and lasing of $BaLaGa_3O_7$ single crystals doped with neodymium

Luminescence quenching

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski 199 Optical properties and lasing of $BaLaGa_3O_7$ single crystals doped with neodymium

Magnesium

H. Boussetta and C. Monty 369 Magnesium impurity diffusion in $Co_{1-x}O$ single crystals

Magnesium–lithium alloys

J. G. Grammatikakis, K. Eftaxias, S. Patapis and V. Hadjicontis 965 A simple model applied to the elastic properties of the lead–thallium and magnesium–lithium alloys

Magnetic anisotropy

J. Sjöström 827 Magnetic instability and crystalline field anisotropy in the space group $P\bar{6}2m$ with application to Fe_2P

Magnetic field

P. K. Chakraborty, J. C. Biswas and C. L. Roy 125 A study of interband tunneling in a semiconductor in the presence of a magnetic field

J. Zink and K. Nagorny 1429 Mössbauer spectroscopic investigations of the magnetic properties of potassium thioferrate-III

Magnetic order

W. Meisel, J. Mintjens and W. P. Bosman 157 Hyperfine interactions in an oxonium ferric orthophosphate

Magnetic phase diagram

A. Zięba, H. Fjellvåg and A. Kjekshus 1087 Magnetic phase diagrams and properties of transition metal substituted MnP

Magnetic properties

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko 785 Mössbauer and magnetic susceptibility investigations of stronium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki 1409 Electrical properties of $La_{2-x}Sr_xCoO_4$—II: Models and analysis of the relationship between cobalt 3*d* electron state and structural, electrical and magnetic properties

Magnetic structure

J. Sjöström 827 Magnetic instability and crystalline field anisotropy in the space group $P\bar{6}2m$ with application to Fe_2P

Magnetic susceptibility

C. Michel, L. Er-Rakho and B. Raveau 451 $La_{8-x}Sr_xCu_8O_{20-\epsilon}$: a metallic conductor belonging to the family of the oxygen-deficient perovskites

A. Zięba, H. Fjellvåg and A. Kjekshus 1087 Magnetic phase diagrams and properties of transition metal substituted MnP

L. Er-Rakho, C. Michel, F. Studer and B. Raveau 1101 The oxygen deficient perovskites $AFe_{1-x}Cu_xO_{2.5-x/2+\delta}$ (A = Sr, Ba) exhibiting mixed valence of iron and copper ions

Magnetism

A. El Jazouli, A. Nadiri, J. M. Dance, C. Delmas and G. Le Flem 779 Relationships between structure and magnetic properties of titanium(III) Nasicon-type phosphates

Magnetization

R. Gérardin, E. Millon, A. Bonazebi, J. F. Brice, F. Jeannot et O. Evrard 343 Structures et propriétés magnétiques des ferrites de calcium pseudo hexagonaux $Ca_4Fe_9O_{17}$, $CaFe_4O_7$ et $Ca_3Fe_{15}O_{25}$

Manganese ferrite

Han-Ill Yoo and Harry L. Tuller 761 Analytic calculation of cation distributions in ferrite spinel $Mn_{1-\gamma}Fe_{2+\gamma}O_4$

Manganese monophosphide

A. Zięba, H. Fjellvåg and A. Kjekshus 1087 Magnetic phase diagrams and properties of transition metal substituted MnP

Many-bodied forces

D. Prakash and J. C. Upadhyaya 91 Many-body forces in the lattice dynamics of some fcc transition metals

Maximum entropy

J. Wagensberg, D. López and J. Valls 695 Statistical aspects of biological organization

Mechanical properties

T. K. Ballabh, Mala Paul and T.R. Middya 1175 Calculation of the pressure derivative of elastic constants for non-cubic polycrystals

Mesophase

W. Kowbel, P. G. Wapner and M. A. Wright 1279 A study of the oxidation of mesophase

Metal–ammonia solutions

P. Arendt 511 The xerogel made from decomposing liquid metal–ammonia solutions —a solid material which carries current densities of 10^5 A cm^{-2} at room temperature

Metal-complex formation

Colin L. Honeybourne, Callum A. S. Hill, Richard J. Ewen, M. S. Collings and William C. Clarke — 1003 Substituent and metal-ion complexation effects upon the gas-surface interactions of thin organic films

Metal difluorides

Victor A. Maroni — 307 Valence force field treatment of the rutile structure at zero-wave vector

Metal dioxides

Victor A. Maroni — 307 Valence force field treatment of the rutile structure at zero-wave vector

Metal oxidation

A. T. Fromhold, Jr — 1159 Growth rate of low-space-charge oxides on spherical metal particles

Metal spheres

King-Sun David Wu and D. E. Beck — 233 The optical calculation of the surface plasma modes for metal spheres and voids in metals

Metallic impurities

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov — 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

Metals

J. Grammatikakis and C. A. Londos — 1465 Compressibilities of niobium alloys

Methylammonium-d_6 hexachlorostannate

Takasuke Matsuo, Hai-Ke Yan and Hiroshi Suga — 85 Calorimetric study of the phase transition in deuterated methylammonium hexachlorostannate

Microcalorimetry

P. Gerdanian — 819 A new $\Delta H(O_2)$ determination method by high-temperature microcalorimetry study of oxide–oxido-reducing gaseous mixtures reaction. Application to wüstite

Microstructure

M. M. Ibrahim, N. Afify, M. M. Hafiz and M. A. Mahmoud — 1127 D.C. electrical conductivity of bulk specimens of the system $Bi_{1-x}Te_x$

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu — 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Misch metal

S. R. Dhanalakshmi, T. Nagarajan, S. Ramasamy, S. Srinivasan and J. A. Sekhar — 15 Positron annihilation and Mössbauer effect studies in rapidly solidified aluminium based iron misch metal alloys

Mixed ionic conduction

A. M. George and A. N. Virkar — 743 Mixed iono-electronic conduction in β-$LaNb_3O_9$

Kyung Moon Choi, Keu Hong Kim and Jae Shi Choi — 1027 Electrical conductivity of the system ThO_2–Er_2O_3

Mixed-valence

H. Eckert, C. J. Chen, M. Greenblatt and R. H. Herber — 71 Electron hopping in lithiated spinels: a temperature dependent Mössbauer study

L. Er-Rakho, C. Michel, F. Studer and B. Raveau — 1101 The oxygen deficient perovskites $AFe_{1-x}Cu_xO_{2.5-x/2+\delta}$ (A = Sr, Ba) exhibiting mixed valence of iron and copper ions

Mode of vibration

S. Mancour et P. Caillet — 1071 Modes de vibration et liaisons chimiques dans des composés $M^{II}Mo_6X_{14}$

Molar volume

Mark E. Cavaleri, Thomas G. Plymate and James H. Stout — 945 A pressure–volume–temperature equation of state for Sn(β) by energy dispersive X-ray diffraction in a heated diamond-anvil cell

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri — 1339 — Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

Molecular beam epitaxy

B. A. Joyce — 237 — Molecular beam epitaxy: recent trends and future developments

Molecular dynamics

P. K. Basu and Raymond D. Mountain — 587 — Molecular dynamics evaluation of cell models for type I gas hydrate crystal dynamics

Molecular orbital

Chikara Sugiura, Michihide Kitamura and Shinji Muramatsu — 1095 — Niobium L_{III} and L_{II} X-ray absorption-edge spectra of Nb_2O_5 and NH_4NbF_6

Monte-Carlo calculation

M. Benzakour, R. Tetot and G. Boureau — 381 — Statistical thermodynamics of cerium dioxide

J. Wagensberg, D. López and J. Valls — 695 — Statistical aspects of biological organization

Montmorillonite

T. Endo, N. Nakada, T. Sato and M. Shimada — 1423 — Fluorescence of clay-intercalated xanthene dyes

H. Bidadi, P. A. Schroeder and Thomas J. Pinnavaia — 1435 — Dielectric properties of montmorillonite clay films: effects of water and layer charge reduction

Mössbauer effect

S. R. Dhanalakshmi, T. Nagarajan, S. Ramasamy, S. Srinivasan and J. A. Sekhar — 15 — Positron annihilation and Mössbauer effect studies in rapidly solidified aluminium based iron misch metal alloys

H. Eckert, C. J. Chen, M. Greenblatt and R. H. Herber — 71 — Electron hopping in lithiated spinels: a temperature dependent Mössbauer study

W. Meisel, J. Mintjens and W. P. Bosman — 157 — Hyperfine interactions in an oxonium ferric orthophosphate

R. Gérardin, E. Millon, A. Bonazebi, J. F. Brice, F. Jeannot et O. Evrard — 343 — Structures et propriétés magnétiques des ferrites de calcium pseudo hexagonaux $Ca_4Fe_9O_{17}$, $CaFe_4O_7$ et $Ca_3Fe_{15}O_{25}$

Mössbauer spectroscopy

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko — 785 — Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

H. T. Hintzen and H. M. van Noort — 873 — Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

M. Devillers, J. Ladrière and D. Apers — 909 — ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

M. Devillers, J. Ladrière and D. Apers — 921 — Emission Mössbauer study of ^{57}Fe in ^{57}Ni-labelled nickel(II) oxalate dihydrate

P. L. Crouse and C. M. Stander — 1145 — A conversion electron Mössbauer spectroscopic study of iron fluoride hydrate surface layers at low glancing angles

Multiphonon relaxation

H. C. Kandpal and K. C. Joshi — 555 — Temperature-dependent energy transfer from $^5D_3$ and $^5D_4$ states of Tb^{3+} to Sm^{3+}

Negative temperatures

W. Muschik — 709 — Formulations of the second law—recent developments

Neodymium

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski — 199 — Optical properties and lasing of $BaLaGa_3O_7$ single crystals doped with neodymium

Neodymium gallium garnet

C. K. Jayasankar, F. S. Richardson, P. Porcher and J. Ostorero — 975 Spin-correlated crystal-field analysis and temperature-dependent paramagnetic susceptibility of neodymium gallium garnet

Neutron diffraction

D. E. Cox, A. R. Moodenbaugh, J. J. Hurst and R. H. Jones — 47 A neutron powder diffraction study of $Ba_2YCu_3O_7$

E. H. P. Cordfunke and D. J. W. IJdo — 551 $Ba_2U_2O_7$: crystal structure and phase relationships

A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban — 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

Neutron irradiation

K. Chakrabarti — 1009 Photobleaching and photoluminescence in neutron-irradiated YAG

Nickel-based solid solutions

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba — 897 The diffusivity of hydrogen in nickel-based solid solutions

Nickel oxide films

K. M. E. Miedzinska, B. R. Hollebone and J. G. Cook — 1355 Optical properties and assignment of the absorption spectra of sputtered mixed valence nickel oxide films

Niobium–molybdenum

J. Grammatikakis and C. A. Londos — 1465 Compressibilities of niobium alloys

Niobium–zirconium

J. Grammatikakis and C. A. Londos — 1465 Compressibilities of niobium alloys

Nitrides

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen — 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

Nitrogen

S. Fujita and J. Neugebauer — 561 General theory of interstitial diffusion in crystals

Non-linear dynamics

K. A. Shore — 659 Non-linearities in laser diodes

Non-linear optical crystal

Jun Qing Lu, Guo Xiang Lan, Bing Li, Yan Yong Yang, Hua Fu Wang and Bai Chang Wu — 519 Raman scattering study of the single crystal β-BaB_2O_4 under high pressure

Non-stoichiometric oxides

P. Gerdanian — 819 A new $\Delta H(O_2)$ determination method by high-temperature microcalorimetry study of oxide–oxido-reducing gaseous mixtures reaction. Application to wüstite

Nonstoichiometry

Chul Hyun Yo, Cheol Woo Kim, Eun Seok Lee, Woong Bum Pyon and Jae Shi Choi — 835 A study of the nonstoichiometry and electrical conductivity of gadolinium sesquioxide

NMR

Peter S. Belton, Robin K. Harris and Philip J. Wilkes — 21 Solid-state phosphorus-31 NMR studies of synthetic inorganic calcium phosphates

F. Taulelle, C. Sanchez, J. Livage, A. Lachgar and Y. Piffard — 299 High resolution solid state ^{31}P NMR in some antimony-phosphates

Kiyofumi Hirokawa and Yoshihiro Furukawa — 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with compositions of $(NH_4)_{3-x}K_x[AlF_6]$ ($x = 1, 2$) as studied by ^1H, ^{19}F, and ^{27}Al nuclear magnetic resonance

Nucleation

S. T. Weldman and R. A. Johnson — 243 Corrections for correlation during homogeneous void nucleation

Octahedral complex

Chikara Sugiura, Michihide Kitamura and Shinji Muramatsu — 1095 — Niobium L_{III} and L_{II} X-ray absorption-edge spectra of Nb_2O_5 and NH_4NbF_6

Octahedral defects

A. Sato, Y. Watanabe and T. Mura — 529 — Octahedral defects in a b.c.c. lattice examined by lattice theory

Optical absorption spectra

S. V. J. Lakshman and A. Suresh Kumar — 133 — Optical absorption spectra of Pr(III), Nd(III), Er(III) and Tm(III) ions in potassium sodium phosphate glass

J. I. Peña, P. J. Alonso and R. Alcalá — 273 — Radiation effects in hydrolysed CaF_2, SrF_2 and BaF_2

Tinh Nguyet Nguyen and Mieczysław Tadeusz Borowiec — 1379 — The kinetics of the photochromic effect in $Bi_{12}SiO_{20}$:Mn

Optical excitation

A. Shluger, S. Mysovsky and A. Nepomnyaschikh — 1043 — Formation of self-trapped holes under optical excitation of impurity centres in LiF crystals

Optical phonons

Andrzej Król and Krzysztof Świątek — 1197 — Long-wavelength optical lattice vibrations in $Mn_xCd_{1-x}F_2$ fluorides

Optical properties

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski — 199 — Optical properties and lasing of $BaLaGA_3O_7$ single crystals doped with neodymium

L. De Luca, U. Giorgianni, P. Perillo and G. Saitta — 363 — Spectroscopic studies of complex ion centres in thallium bromide solutions

K. M. E. Miedzinska, B. R. Hollebone and J. G. Cook — 1355 — Optical properties and assignment of the absorption spectra of sputtered mixed valence nickel oxide films

Order–disorder

B. S. Tošić, J. P. Šetrajčić, D. Lj. Mirjanić and R. P. Djajić — 1187 — Symmetry breaking in order–disorder ferroelectrics and temperature effects

Order–disorder transition

Takasuke Matsuo, Hai-Ke Yan and Hiroshi Suga — 85 — Calorimetric study of the phase transition in deuterated methylammonium hexachlorostannate

K. Chhor, L. Abello, C. Pommier and C. Sourisseau — 1079 — Reorientational motions in a perovskite-type layer compound $[NH_3(CH_2)_5NH_3]MnCl_4$. A calorimetric study

Order in perovskites

J. A. Alonso and I. Rasines — 385 — On the influence of the non-bonded pair of Pb(II) in the novel ordered perovskite $Pb[Sc_{0.50}(Ti_{0.25}Te_{0.25})]O_3$

Ordered alloys

S. M. Kim — 65 — Vacancy properties in ordered CoGa and FeAl

Ordering parameter

Lj. Mašković, V. Sajfert and M. M. Marinković — 1329 — Temperature behaviour of solitons in ferroelectrics of the order–disorder type

Organic semiconductor

Colin L. Honeybourne and Callum A. S. Hill — 315 — The chemical degradation of gas-sensing meso-tetra-arylporphin thin films by high levels of dinitrogen tetroxide

Colin L. Honeybourne, Callum A. S. Hill, Richard J. Ewen, M. S. Collings and and William C. Clarke — 1003 — Substituent and metal-ion complexation effects upon the gas surface interactions of thin organic films

Oxalates

M. Devillers, J. Ladrière and D. Apers — 909 — ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

M. Devillers, J. Ladrière and D. Apers 921 Emission Mössbauer study of ^{57}Fe in ^{57}Ni-labelled nickel(II) oxalate dihydrate

Oxidation

W. Kowbel, P. G. Wapner and M. A Wright 1279 A study of the oxidation of mesophase

Oxidation rate

A. T. Fromhold, Jr 1159 Growth rate of low-space-charge oxides on spherical metal particles

Oxides

Victor A. Maroni 307 Valence force field treatment of the rutile structure at zero-wave vector

H. Boussetta and C. Monty 369 Magnesium impurity diffusion in $Co_{1-x}O$ single crystals

J. M. Dance, A. Wichainchai, P. Dordor, E. Marquestaut, J. P. Doumerc and A. Ammar 377 Determination of the zero field splitting and exchange narrowing of EPR linewidth in Cr^{3+} delafossite-type oxides

M. Benzakour, R. Tetot and G. Boureau 381 Statistical thermodynamics of cerium dioxide

J. A. Alonso and I. Rasines 385 On the influence of the non-bonded pair of Pb(II) in the novel ordered perovskite $Pb[Sc_{0.50}(Ti_{0.25}Te_{0.25})]O_3$

P. Gerdanian 819 A new $\Delta H(O_2)$ determination method by high-temperature microcalorimetry study of oxide–oxido-reducing gaseous mixtures reaction. Application to wüstite

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

J. D. Birchall 859 High strength ceramics: problems and possibilities

Oxygen

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko 737 The solubility of interstitial impurities

Oxygen potential

D. A. MacInnes and P. W. Winter 143 The effect of the chemically inert fission products on the chemistry of irradiated UO_2

Oxygen vacancies

A. M. George and A. N. Virkar 743 Mixed iono-electronic conduction in β-$LaNb_3O_9$

Kyung Moon Choi, Keu Hong Kim and Jae Shi Choi 1027 Electrical conductivity of the system ThO_2–Er_2O_3

Palladium–yttrium

M. Yoshihara and R. B. McLellan 401 Thermodynamic study of the palladium–yttrium–hydrogen system

Paramagnets

A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

Paramagnetic ions

Michael F. Reid 185 On the use of $\mathbf{E}\cdot\mathbf{r}$ and $\mathbf{A}\cdot\mathbf{p}$ in perturbation calculations of transition intensities for paramagnetic ions in solids

Paramagnetic susceptibility

C. K. Jayasankar, F. S. Richardson, P. Porcher and J. Ostorero 975 Spin-correlated crystal-field analysis and temperature-dependent paramagnetic susceptibility of neodymium gallium garnet

Partial enthalpy of oxygen

P. Gerdanian 819 A new $\Delta H(O_2)$ determination method by high-temperature microcalorimetry study of oxide–oxido-reducing gaseous mixtures reaction. Application to wüstite

Partial equilibrium

W. A. Oates and H. Wenzl 1363 Temperature–chemical potential diagrams for the representation of defect and phase equilibria in compound semiconductors—application to gallium arsenide

Percolation

V. Ya. Sukharev, V. V. Chistyakov and I. A. Myasnikov — 333 Percolation electroconductivity of two-component barrier-disordered polycrystalline composites

Permeability

S. K. Pabi and H. Hahn — 1035 A highly sensitive method for measurement of ^{222}Rn permeability in metals

Perovskites

J. A. Alonso and I. Rasines — 385 On the influence of the non-bonded pair of Pb(II) in the novel ordered perovskite $Pb[Sc_{0.50}(Ti_{0.25}Te_{0.25})]O_3$

C. Michel, L. Er-Rakho and B. Raveau — 451 $La_{8-x}Sr_xCu_8O_{20-\epsilon}$: a metallic conductor belonging to the family of the oxygen-deficient perovskites

K. Chhor, L. Abello, C. Pommier and C. Sourisseau — 1079 Reorientational motions in a perovskite-type layer compound $[NH_3(CH_2)_5NH_3]MnCl_4$. A calorimetric study

L. Er-Rakho, C. Michel, F. Studer and B. Raveau — 1101 The oxygen deficient perovskites $AFe_{1-x}Cu_xO_{2.5-x/2+\delta}$ (A = Sr, Ba) exhibiting mixed valence of iron and copper ions

Perturbation theory

Michael F. Reid — 185 On the use of $\mathbf{E}\cdot\mathbf{r}$ and $\mathbf{A}\cdot\mathbf{p}$ in perturbation calculations of transition intensities for paramagnetic ions in solids

Phase diagrams

V. Leute and H. M. Schmidtke — 409 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3\delta)}In_{2\delta}Te_3$—I. Investigations by X-ray diffraction and differential thermoanalysis

Volkmar Leute and Heinrich Michael Schmidtke — 1317 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3\delta)}In_{2\delta}Te_3$—II. Investigations by electron microprobe measurements

W. A. Oates and H. Wenzl — 1363 Temperature–chemical potential diagrams for the representation of defect and phase equilibria in compound semiconductors—application to gallium arsenide

Phase equilibrium

Yu. V. Golikov and V. F. Balakirev — 329 Phase equilibrium diagram of the system—Ni–Mn–O

Phaseshift

G. Blanc — 633 Test of a distribution for electron trap lifetimes in ZnS which is related to the maximum entropy principle

Phase transformation

El-Zeiny M. Ebeid and Ahmed M. Donia — 263 Structural and photochemical transformations in anthracenes

Jagannadham Akella, Gordon S. Smith and Andrew P. Jephcoat — 573 High-pressure phase transformation studies in gadolinium to 106 GPa

R. M. Ayral-Marin, B. Liautard, M. Maurin, J. C. Tedenac et G. Brun — 939 AgTlTe—étude de la zone de solution solide et de ses modifications structurales

Phase transition

Takasuke Matsuo, Hai-Ke Yan and Hiroshi Suga — 85 Calorimetric study of the phase transition in deuterated methylammonium hexachlorostannate

Jiang-Tsu Yu, Shen-Yuan Chou and Shu-Jeu Huang — 289 Low-temperature phase transitions of $LiCsSO_4$: ESR of $\dot{N}H_3^+$ and Cr^{5+}

O. Yamamuro, M. Oguni, T. Matsuo and H. Suga — 425 Calorimetric study of pure and KOH-doped tetrahydrofuran clathrate hydrate

E. Schöll — 651 Nonequilibrium phase transitions and chaos in semiconductors

Roger Frech and Enzo Cazzanelli — 905 The reconstructive nature of the cubic-to-monoclinic phase transition in lithium sulfate

M. Mylrajan and T. K. K. Srinivasan 929 Raman and infrared studies of structural phase transition in $(CH_3)_2NH_2NO_3$

Kiyofumi Hirokawa and Yoshihiro Furukawa 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with the compositions of $(NH_4)_{3-x}K_x[AlF_6]$ ($x = 1, 2$) as studied by ^1H, ^{19}F, and ^{27}Al nuclear magnetic resonance

K. Chhor, L. Abello, C. Pommier and C. Sourisseau 1079 Reorientational motions in a perovskite-type layer compound $[NH_3(CH_2)_5NH_3]MnCl_4$. A calorimetric study

A. M. Heyns, O. T. van Niekerk, P. W. Richter and K.-J. Range 1133 The polymorphism of alkali metal formates—Part I. A Raman study of the II–I transition in NaHCOO

B. S. Tošić, J. P. Sucupercetrajčić, D. Lj. Mirjanić and R. P. Djajić 1187 Symmetry breaking in order–disorder ferroelectrics and temperature effects

R. A. Dalterio and F. J. Owens 1303 Laser Raman study of lattice modes of high temperature tetragonal to cubic transition in ammonium nitrate

M. A. Ahmed and F. A. Radwan 1385 Electrical conductivity of the compounds $(CH_2)_n(NH_3)_2FeCl_{4-x}Br_x$ ($n = 8$, 9 and 10, $x = 0$, 1 and 2)

Phonons

J. Singh 667 Excitation transfer in crystalline solids

Lj. Mašković, V. Sajfert and M. M. Marinković 1329 Temperature behaviour of solitons in ferroelectrics of the order–disorder type

Phosphates

A. El Jazouli, A. Nadiri, J. M. Dance, C. Delmas and G. Le Flem 779 Relationships between structure and magnetic properties of titanium(III) Nasicon-type phosphates

Phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 133 Optical absorption spectra of Pr(III), Nd(III), Er(III) and Tm(III) ions in potassium sodium phosphate glass

Phosphides

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

Phosphorus-31 compounds

Peter S. Belton, Robin K. Harris and Philip J. Wilkes 21 Solid-state phosphorus-31 NMR studies of synthetic inorganic calcium phosphates

F. Taulelle, C. Sanchez, J. Livage, A. Lachgar and Y. Piffard 299 High resolution solid state ^{31}P NMR in some antimony phosphates

Photoacoustics

Du Yinglei, Wu Baimei and He Pingsheng 499 Photoacoustic study of PTS (bis-*p*-toluene sulfonate of 2,4-hexadiyne-1,6-diol) single crystal and its thermal properties

Photobleach

K. Chakrabarti 1009 Photobleaching and photoluminescence in neutron-irradiated YAG

Photochromism

Tinh Nguyet Nguyen and Mieczyslaw Tadeusz Borowiec 1379 The kinetics of the photochromic effect in $Bi_{12}SiO_{20}$:Mn

Photoconductivity

R. D. Singh, N. V. Unnikrishnan and M. Matera 79 Pulsed laser induced photoconductivity in ZnS—Part I

Photodimerization

El-Zeiny M. Ebeid and Ahmed M. Donia 263 Structural and photochemical transformations in anthracenes

Photoenhancement

G. Yaron, Y. Goldstein, A. Many, S. Z. Weisz and O. Resto 887 Persistent photoenhancement of hydrogen-implanted quantized accumulation layers on ZnO surfaces

Photo-induced transient spectroscopy

M. R. Burd and R. Braunstein 731 Deep levels in semi-insulating liquid encapsulated Czochralski-grown GaAs

Photoluminescence

G. Blanc 633 Test of a distribution for electron trap lifetimes in ZnS which is related to the maximum entropy principle

S. S. Goldenberg, M. D. Kellam and L. M. Slifkin 773 Luminescent recombination processes of the self-trapped hole in copper-doped silver chloride

Pitch fibers

W. Kowbel, P. G. Wapner and M. A. Wright 1279 A study of the oxidation of mesophase

Plastic phase

Roger Frech and Enzo Cazzanelli 905 The reconstructive nature of the cubic-to-monoclinic phase transition in lithium sulfate

Point defects

S. T. Weidman and R. A. Johnson 243 Corrections for correlation during homogeneous void nucleation

H. Boussetta and C. Monty 369 Magnesium impurity diffusion in $Co_{1-x}O$ single crystals

H. G. Grimmeiss and M. Kleverman 615 Local Auger effects at point defects in silicon

W. A. Oates and H. Wenzl 1363 Temperature–chemical potential diagrams for the representation of defect and phase equilibria in compound semiconductors—application to gallium arsenide

Point-ion model

K. J. Smolander 1167 Electrostatical properties of the ferroelectric phases of $KNbO_3$

Polariton

Z. Burshtein, S. Morgan, D. O. Henderson and E. Silberman 1295 Spatial dispersion in polariton spectra of cadmium tungstate ($CdWO_4$) single crystals

Polarizable point-ion shell model

E. Iguchi, T. Yamamoto and R. J. D. Tilley 205 Bipolaron effects on the lattice energy of Ti_4O_7

Polarization

A. M. George and A. N. Virkar 743 Mixed iono-electronic conduction in β-$LaNb_3O_9$

Anuradha Gupta, Dibyendu Talapatra, P. K. Majumdar, R. K. Mukherjee and Asok K. Banerjee 1269 Low temperature polarized absorption spectra for Ni^{2+} in trigonal $Ni_2CdCl_6 \cdot 12H_2O$ single crystals

Polycrystals

T. K. Ballabh, Mala Paul and T. R. Middya 1175 Calculation of the pressure derivative of elastic constants for non-cubic polycrystals

Polymorphism

A. M. Heyns, O. T. van Niekerk, P. W. Richter and K.-J. Range 1133 The polymorphism of alkali metal formates—Part I. A Raman study of the II–I transition in NaHCOO

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri 1339 Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

Porphins

Colin L. Honeybourne and and Callum A. S. Hill 315 The chemical degradation of gas-sensing meso-tetra-arylporphin thin films by high levels of dinitrogen tetroxide

Positron annihilation

S. R. Dhanalakshmi, T. Nagarajan, S. Ramasamy, S. Srinivasan and J. A. Sekhar 15 Positron annihilation and Mõssbauer effect studies in rapidly solidified aluminium based iron misch metal alloys

H. Murakami, I. Kanazawa, M. Sano, T. Enoki and H. Inokuchi 457 Hydrogen in a graphite–rubidium intercalation compound RbC_3 studied by positron annihilation

Potassium thioferrate

J. Zink and K. Nagorny 1429 Mössbauer spectroscopic investigations of the magnetic properties of potassium thioferrate-III

Potassium perchlorate

S. C. Deevi 323 Importance of local heating in the compaction of thermally sensitive solids

Powders

J. D. Birchall 859 High strength ceramics: problems and possibilities

Precipitation

A. Sato, Y. Watanabe and T. Mura 529 Octahedral defects in a b.c.c. lattice examined by lattice theory

Pressure

Mark E. Cavaleri, Thomas G. Plymate and James H. Stout 945 A pressure–volume–temperature equation of state for Sn(β) by energy dispersive X-ray diffraction in a heated diamond-anvil cell

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri 1339 Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

Pressure dependence

P. Jacobsson and B. Sundqvist 441 Pressure dependence of the thermal and electrical conductivities of the intermetallic compounds AuCu and $AuCu_3$

Pressure derivatives

T. K. Ballabh, Mala Paul and T. R. Middya 1175 Calculation of the pressure derivative of elastic constants for non-cubic polycrystals

Probability distribution

F. Schlögl 679 Thermodynamic uncertainty relation

B. H. Lavenda 685 On the phenomenological basis of statistical thermodynamics

Pulsed laser

R. D. Singh, N. V. Unnikrishnan and M. Matera 79 Pulsed laser induced photoconductivity in ZnS—Part I

Pyronine

T. Endo, N. Nakada, T. Sato and M. Shimada 1423 Fluorescence of clay-intercalated xanthene dyes

Pyrrhotite

D. E. Tsatis 359 Thermal expansion of pyrrhotite (Fe_7S_8) at high temperatures

Quantum Boltzmann equation

C. M. Van Vliet and P. Vasilopoulos 639 The quantum Boltzmann equation and some applications to transport phenomena

Quantum size effect

H. T. Chu 1191 Two-dimensional motion of charge carriers in ultrathin films

Quantum well

A. R. Beattie 589 A lifetime in Auger transitions

A. Haug 599 Band-to-band Auger recombination in semiconductors

R. A. Abram, R. W. Kelsall 607 Auger recombination in low-dimensional structures

C. M. Van Vliet and P. Vasilopoulos 639 The quantum Boltzmann equation and some applications to transport phenomena

A. Erçelebi and U. Özdinçer 769 Impurity-bound electron in quantum well-heterostructure-type systems

Quartz

A. Halperin and S. Katz 577 Irradiation effects on the low-temperature thermoluminescence (TSL) of quartz crystals

Quasi-chemical model

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba 897 The diffusivity of hydrogen in nickel-based solid solutions

Radiation effects

J. I. Peña, P. J. Alonso and R. Alcalá 273 Radiation effects in hydrolysed CaF_2, SrF_2 and BaF_2

Radiation energy conversion

A. De Vos 725 Thermodynamics of radiation energy conversion in one and in three physical dimensions

Raman scattering

Jun Qing Lu, Guo Xiang Lan, Bing Li, Yan Yong Yang, Hua Fu Wang and Bai Chang Wu 519 Raman scattering study of the single crystal β-BaB_2O_4 under high pressure

V. Vorlíček, L. Gregora, V. Riede and H. Neumann 797 Raman scattering study of GaP:N epitaxial layers

Raman spectra

Roger Frech and Enzo Cazzanelli 905 The reconstructive nature of the cubic-to-monoclinic phase transition in lithium sulfate

M. Mylrajan and T. K. K. Srinivasan 929 Raman and infrared studies of structural phase transition in $(CH_3)_2NH_2NO_3$

A. M. Heyns, O. T. van Niekerk, P. W. Richter and K.-J. Range 1133 The polymorphism of alkali metal formates—Part I. A Raman study of the II–I transition in NaHCOO

Z. Burshtein, S. Morgan, D. O. Henderson and E. Silberman 1295 Spatial dispersion in polariton spectra of cadmium tungstate ($CdWO_4$) single crystals

R. A. Dalterio and F. J. Owens 1303 Laser Raman study of lattice modes of high temperature tetragonal to cubic transition in ammonium nitrate

Random walk

N. G. van Kampen 673 Diffusion in inhomogeneous media

Rare earth binary glasses

S. V. J. Lakshman and A. Suresh Kumar 133 Optical absorption spectra of Pr(III), Nd(III), Er(III) and Tm(III) ions in potassium sodium phosphate glass

Rare earth-cobalt compounds

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. L. Arnaudas 213 Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

Reaction kinetics

A. T. Fromhold, Jr 1159 Growth rate of low-space-charge oxides on spherical metal particles

Recoil

M. Devillers, J. Ladrière and D. Apers 921 Emission Mössbauer study of ^{57}Fe in ^{57}Ni-labelled nickel(II) oxalate dihydrate

Refractive index

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Refractory carbides and nitrides

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

Regular solution

J. du Plessis and G. N. van Wyk 1441 A model for surface segregation in multicomponent alloys—Part I: Equilibrium segregation

J. du Plessis and G. N. van Wyk 1451 A model for surface segregation in multicomponent alloys—Part II: Comment on other segregation analyses

Relaxation time

O. Yamamuro, M. Oguni, T. Matsuo and H. Suga 425 Calorimetric study of pure and KOH-doped tetrahydrofuran clathrate hydrate

J. P. Fleurial, L. Galliard, R. Triboulet, H. Scherrer and S. Scherrer 1249 Thermal properties of high quality single crystals of bismuth telluride —Part II: mixed-scattering model

Reorientability

N. Hitmi, C. LaCabanne and R. A. Young 541 OH^- reorientability in hydroxyapatites: effect of F^- and Cl^-

Residual stress

A. K. Wong, J. G. Sparrow and S. A. Dunn 395 On the revised theory of the thermoelastic effect

Rhodamine

T. Endo, N. Nakada, T. Sato and M. Shimada 1423 Fluorescence of clay-intercalated xanthene dyes

Rocksalt compounds

Sehun Kim and R. Stanley Williams 1307 Mixed-basis band structure interpolation scheme applied to the rock-salt structure compounds TiC, TiN and TiO

Rubidium

H. Murakami, I. Kanazawa, M. Sano, T. Enoki and H. Inokuchi 457 Hydrogen in a graphite–rubidium intercalation compound RbC_8 studied by positron annihilation

Rutile

Victor A. Maroni 307 Valence force field treatment of the rutile structure at zero-wave vector

Saponite

T. Endo, N. Nakada, T. Sato and M. Shimada 1423 Fluorescence of clay-intercalated xanthene dyes

Scattering mechanisms

C. Rincón 391 On the deformation potentials in $CuInSe_2$ ternary semiconductors

Schottky anomaly

Motohiro Nakano, Tomio Wakamatsu, Michio Sorai and Hiroshi Suga 987 Cluster pairing in the paramagnetic trinuclear complex compound $[Cr_3O(CH_3COO)_6(H_2O)_3]Cl \cdot 6H_2O$: calorimetric study at very low temperatures

Second law

W. Muschik 709 Formulations of the second law—recent developments

Seebeck coefficient

J. Horák, Z. Starý, P. Lošťák and J. Pancíř 191 Antisite defects in $Sb_{2-x}In_xTe_3$ mixed crystals

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki 1403 Electrical properties of $La_{2-x}Sr_xCoO_4$—I: Structure, electrical conductivity, and Seebeck coefficient of single crystals ($x = 0.0$, 0.5, 1.0 and 1.5)

Self-energy

J. Mašek and J. Kudrnovský 349 Electron states in random substitutional alloys: the self-energy

Self-trapped holes

A. Shluger, S. Mysovsky and A. Nepomnyaschikh 1043 Formation of self-trapped holes under optical excitation of impurity centres in LiF crystals

II–VI Semiconductors

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

III–V Semiconductors

T. L. Yeap and A. K. Koh — 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

Semiconductor

P. K. Chakraborty, J. C. Biswas and C. L. Roy — 125 A study of interband tunneling in a semiconductor in the presence of a magnetic field

V. Ya. Sukharev, V. V. Chistyakov and I. A. Myasnikov — 333 Percolation electroconductivity of two-component barrier-disordered polycrystalline composites

A. R. Beattie — 589 A lifetime in Auger transitions

J. S. Blakemore — 627 Electron capture and emission for midgap centers

C. M. Van Vliet and P. Vasilopoulos — 639 The quantum Boltzmann equation and some applications to transport phenomena

E. Schöll — 651 Nonequilibrium phase transitions and chaos in semiconductors

H. Chacham, J. L. A. Alves, M. L. De Siqueira and José R. Leite — 969 Electronic structure of cationic core excitons in II–VI semiconductors

R. Eppenga, M. F. H. Schuurmans and H. W. A. M. Rompa — 1119 *Ab-initio* determinations of semiconductor spin-orbit splittings from ASW

Semiconductor lasers

A. Haug — 599 Band-to-band Auger recombination in semiconductors

R. A. Abram, R. W. Kelsall and R. I. Taylor — 607 Auger recombination in low-dimensional structures

K. A. Shore — 659 Non-linearities in laser diodes

Semiconductor surfaces

F. J. Himpsel — 3 Inverse photoemission

Semi-insulating liquid

M. R. Burd and R. Braunstein — 731 Deep levels in semi-insulating liquid encapsulated Czochralski-grown GaAs

Sesquioxides

H. T. Hintzen and H. M. van Noort — 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

Silicides

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu — 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Silicon

B. A. Joyce — 237 Molecular beam epitaxy: recent trends and future developments

H. G. Grimmeiss and M. Kleverman — 615 Local Auger effects at point defects in silicon

L. C. Balbás, A. Rubio, J. A. Alonso, N. H. March and G. Borstel — 1013 X-ray scattering factors of crystalline silicon and germanium from a bond charge model

Silver chloride

S. S. Goldenberg, M. D. Kellam and L. M. Slifkin — 773 Luminescent recombination processes of the self-trapped hole in copper-doped silver chloride

Sodium formate

A. M. Heyns, O. T. van Niekerk, P. W. Richter and K.-J. Range — 1133 The polymorphism of alkali metal formates—Part I. A Raman study of the II–I transition in NaHCOO

Solid electrolytes

S. A. Akbar — 585 Hopping conduction in Na-β-alumina: temperature dependence

Solid solutions

Keu Hong Kim, Do Young Yim, Sung Ho Park and **Jae Shi Choi** 151 Electrical conductivity of the system $XZrO_2 + (1-X)Er_2O_3$; $0.05 \leqslant X \leqslant 0.15$

Yu. V. Golikov and **V. F. Balakirev** 329 Phase equilibrium diagram of the system—Ni–Mn–O

M. Yoshihara and **R. B. McLellan** 401 Thermodynamic study of the palladium–yttrium–hydrogen system

R. M. Ayral-Marin, B. Liautard, M. Maurin, J. C. Tedenac et **G. Brun** 939 AgTlTe—étude de la zone de solution solide et de ses modifications structurales

Keu Hong-Kim, Sung Ho Park, Jae Shi Choi and **Kyung Woo Hyung** 1019 Electrical conductivity of the solid solution $Tb_xGd_{2-2x}O_{3-x}$

Solid-state NMR

Peter S. Belton, Robin K. Harris and **Philip J. Wilkes** 21 Solid-state phosphorus-31 NMR studies of synthetic inorganic calcium phosphates

Solid-state reactions

Volkmar Leute and **Heinrich Michael Schmidtke** 1317 Thermodynamics and kinetics of the quasibinary system $Hg_{3-3k}In_{2k}Te_3$—II. Investigations by electron microprobe measurements

Solitons

Lj. Mašković, V. Sajfert and **M. M. Marinković** 1329 Temperature behaviour of solitons in ferroelectrics of the order–disorder type

Solubility

Z. A. Matysina, M. I. Milyan and **S. Yu. Zaginaichenko** 737 The solubility of interstitial impurities

S. K. Pabi and **H. Hahn** 1035 A highly sensitive method for measurement of ^{222}Rn permeability in metals

Clarence Ko and **Rex B. McLellan** 1219 Thermodynamics of austenitic Fe–Cu–N solid solutions

Solubility in aluminum

Minoru Ichimura, Hiroji Katsuta Yasusi Sasajima and **Mamoru Imabayashi** 1259 Hydrogen and deuterium solubility in aluminum with voids

Space charge limited current

M. L. Dalal, S. Sivaraman and **Y. V. G. S. Murti** 223 Space charge limited current (SCLC) in alkali halide crystals during electrolytic coloration

Spatial dispersion

Z. Burshtein, S. Morgan, D. O. Henderson and **E. Silberman** 1295 Spatial dispersion in polariton spectra of cadmium tungstate ($CdWO_4$) single crystals

Spectra

Zhou Yi-Yang 851 Spectra of gillespite, $BaFeSi_4O_{10}$, at high pressure

Spinels

A. N. Cormack, G. V. Lewis, S. C. Parker and **C. R. A. Catlow** 53 On the cation distribution of spinels

M. S. Islam and **C. R. A. Catlow** 119 Structural and electronic properties of $NiMn_2O_4$

Spin-lattice relaxation

Kiyofumi Hirokawa and **Yoshihiro Furukawa** 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with compositions of $(NH_4)_{3-x}K_x[AlF_6]$ ($x = 1, 2$) as studied by ^1H, ^{19}F, and ^{27}Al nuclear magnetic resonance

Spin glas

J. K. Srivastava 115 Transverse freezing in powdered Fe_2TiO_5

Spin-orbit splitting

R. Eppenga, M. F. H. Schuurmans and **H. W. A. M. Rompa** 1119 *Ab-initio* determinations of semiconductor spin-orbit splittings from ASW

Spin reorientation

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. I. Arnandas — 213 Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

Sputtered films

K. M. E. Miedzinska, B. R. Hollebone and J. G. Cook — 1355 Optical properties and assignment of the absorption spectra of sputtered mixed valence nickel oxide films

Statistical models

Clarence Ko and Rex E. McLellan — 1219 Thermodynamics of austenitic Fe–Cu–N solid solutions

Statistical thermodynamics

M. Benzakour, R. Tetot and G. Boureau — 381 Statistical thermodynamics of cerium dioxide

B. H. Lavenda — 685 On the phenomenological basis of statistical thermodynamics

Stimulated emission

J. Singh — 667 Excitation transfer in crystalline solids

Stoichiometric deviations

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer — 1237 Thermal properties of high quality single crystals of bismuth telluride —Part I: experimental characterization

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer — 1249 Thermal properties of high quality single crystals of bismuth telluride —Part II: mixed-scattering model

Stoichiometry

H. Verweij and W. H. M. Bruggink — 1063 Precision determination of the stoichiometry parameter x of $YBa_2Cu_3O_x$

Stress dependence

A. K. Wong, J. G. Sparrow and S. A. Dunn — 395 On the revised theory of the thermoelastic effect

Structural parameters

J. A. Alonso and L. Rasines — 385 On the influence of the non-bonded pair of Pb(II) in the novel ordered perovskite $Pb[Sc_{0.50}(Ti_{0.25}Te_{0.25})]O_3$

Structural vacancies

V. Leute and H. M. Schmidtke — 409 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3\delta)}In_{2\delta}Te_3$—I. Investigations by X-ray diffraction and differential thermoanalysis

Structure

A. El Jazouli, A. Nadiri, J. M. Dance, C. Delmas and G. Le Flem — 779 Relationships between structure and magnetic properties of titanium(III) Nasicon-type phosphates

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki — 1403 Electrical properties of $La_{2-x}Sr_xCoO_4$—I: Structure, electrical conductivity, and Seebeck coefficient of single crystals ($x = 0.0$, 0.5, 1.0 and 1.5)

Substitutional alloys

J. Mašek and J. Kudrnovský — 349 Electron states in random substitutional alloys: the self-energy

Superconducting transition temperature

W. Lengauer — 59 Interdependency of composition and T_c of δ-VN_{1-x} and the influence and determination of its nitrogen surface diffusion layers

Superconductors

D. E. Cox, A. R. Moodenbaugh, J. J. Hurst and R. H. Jones — 47 A neutron powder diffraction study of $Ba_2YCu_3O_7$

H. Verweij and W. H. M. Bruggink — 1063 Precision determination of the stoichiometry parameter x of $YBa_2Cu_3O_x$

Xi Xiao-Xing, Ran Qi-Ze, Liu Jia-Rui and Guan Wei-Yan — 1125 Ion beam mixing: a new method in the study of metastable superconductors

Superionic conductors

S. A. Akbar 585 Hopping conduction in Na-β-alumina: temperature dependence

Superlattices

Manvir S. Kushwaha 165 Collective excitations in periodic semiconductor multiheterostructures

Surface currents

Colin L. Honeybourne, Callum A. S. Hill, Richard J. Ewen, M. S. Collings and William C. Clarke 1003 Substituent and metal-ion complexation effects upon the gas-surface interactions of thin organic films

Surface diffusion

W. Lengauer 59 Interdependency of composition and T_c of δ-VN_{1-x} and the influence and determination of its nitrogen surface diffusion layers

Surface magnetism

F. J. Himpsel 3 Inverse photoemission

Surface plasmons

King-Sun David Wu and D. E. Beck 233 The optical calculation of the surface plasma modes for metal spheres and voids in metals

Surface segregation

J. du Plessis and G. N. van Wyk 1441 A model for surface segregation in multicomponent alloys—Part I: Equilibrium segregation

J. du Plessis and G. N. van Wyk 1451 A model for surface segregation in multicomponent alloys—Part II: Comment on other segregation analyses

Surface states

F. J. Himpsel 3 Inverse photoemission

C. L. Roy and J. S. Pandey 1373 Surface states of a one-dimensional finite crystal with deformations at the surfaces

Surface tension

J. du Plessis and G. N. van Wyk 1441 A model for surface segregation in multicomponent alloys—Part I: Equilibrium segregation

J. du Plessis and G. N. van Wyk 1451 A model for surface segregation in multicomponent alloys—Part II: Comment on other segregation analyses

Szigeti charge

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

Temperature

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri 1339 Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

Tetrahydrofuran clathrate hydrate

O. Yamamuro, M. Oguni, T. Matsuo and H. Suga 425 Calorimetric study of pure and KOH-doped tetrahydrofuran clathrate hydrate

Thallium bromide solution

L. De Luca, U. Giorgianni, P. Perillo and G. Saitta 363 Spectroscopic studies of complex ion centres in thallium bromide solutions

Theory of atomic diffusion

S. Fujita and J. Neugebauer 561 General theory of interstitial diffusion in crystals

Thermal conductivity

P. Jacobsson and B. Sundqvist 441 Pressure dependence of the thermal and electrical conductivities of the intermetallic compounds AuCu and $AuCu_3$

Du Yinglei, Wu Baimei and He Pingsheng 499 Photoacoustic study of PTS (bis-*p*-toluene sulfonate of 2,4-hexadiyne-1,6-diol) single crystal and its thermal properties

Thermal expansion

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. I. Arnaudas — 213 — Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

D. E. Tsatis — 359 — Thermal expansion of pyrrhotite (Fe_7S_8) at high temperatures

S. K. Saxena — 1233 — Assessment of thermal expansion, bulk modulus, and heat capacity of enstatite and forsterite

Thermal properties

Du Yinglei, Wu Baimei and He Pingsheng — 499 — Photoacoustic study of PTS (bis-*p*-toluene sulfonate of 2,4-hexadiyne-1,6-diol) single crystal and its thermal properties

Thermal stability

E. H. P. Cordfunke and D. J. W. IJdo — 551 — $Ba_2U_2O_7$: crystal structure and phase relationships

Thermoelectric properties

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer — 1237 — Thermal properties of high quality single crystals of bismuth telluride —Part I: experimental characterization

Thermoelectricity

R. M. Ayral-Marin, B. Liautard, M. Maurin, J. C. Tedenac et G. Brun — 939 — AgTlTe—étude de la zone de solution solide et de ses modifications structurales

Thermodynamics

Han-Ill Yoo and B. J. Wuensch — 253 — Irreversible thermodynamic analyses of nonisothermal isotopic inter-diffusion in ionic solids

M. Yoshihara and R. B. McLellan — 401 — Thermodynamic study of the palladium–yttrium–hydrogen system

V. Leute and H. M. Schmidtke — 409 — Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$—I. Investigations by X-ray diffraction and differential thermoanalysis

F. Schlögl — 679 — Thermodynamic uncertainty relation

G. L. Sewell — 701 — Gravitational thermodynamics and the generalized second law

J. Dunning-Davies — 705 — Thermodynamics of non-extensive systems

A. De Vos — 725 — Thermodynamics of radiation energy conversion in one and in three physical dimensions

Rex B. McLellan — 1213 — The thermodynamics of interstitial–vacancy interactions in solid solutions

Clarence Ko and Rex B. McLellan — 1219 — Thermodynamics of austenitic Fe–Cu–N solid solutions

G. Perrin and M. Delannoy-Coutris — 1397 — Generalized Anderson–Grüneisen parameters for cubic solids

Thermodynamic functions

J. Dunning-Davies — 705 — Thermodynamics of non-extensive systems

Thermodynamical algebra

W. Muschik — 709 — Formulations of the second law—recent developments

Thermoelastic effect

A. K. Wong, J. G. Sparrow and S. A. Dunn — 395 — On the revised theory of the thermoelastic effect

Thermoelectric power

C. Michel, L. Er-Rakho and B. Raveau — 451 — $La_{8-x}Sr_xCu_8O_{20-\delta}$: a metallic conductor belonging to the family of the oxygen-deficient perovskites

Han-Ill Yoo and Harry L. Tuller — 761 — Analytic calculation of cation distributions in ferrite spinel $Mn_{1-\gamma}Fe_{2+\gamma}O_4$

Thermogravimetry

H. Verweij and W. H. M. Bruggink — 1063 — Precision determination of the stoichiometry parameter x of $YBa_2Cu_3O_x$

Thermoluminescence

A. Halperin and S. Katz 577 Irradiation effects on the low-temperature thermoluminescence (TSL) of quartz crystals

Thermomigration

Han-Ill Yoo and B. J. Wuensch 253 Irreversible thermodynamic analyses of nonisothermal isotopic interdiffusion in ionic solids

Thin solid films

Colin L. Honeybourne and Callum A. S. Hill 315 The chemical degradation of gas-sensing meso-tetra-arylporphin thin films by high levels of dinitrogen tetroxide

Colin L. Honeybourne, Callum A. S. Hill, Richard J. Ewen, M. S. Collings and William C. Clarke 1003 Substituent and metal-ion complexation effects upon the gas-surface interactions of thin organic films

Tight-binding method

Victor M. Ratag 9 The effect of bond-angle and dihedral-angle disorders on the top of the valence band of amorphous silicon

J. Mašek and J. Kudrnovský 349 Electron states in random substitutional alloys: the self-energy

Tin

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri 1339 Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

Titanium

A. El Jazouli, A. Nadiri, J. M. Dance, C. Delmas and G. Le Flem 779 Relationships between structure and magnetic properties of titanium(III) Nasicon-type phosphates

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. F. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

PTS (bis-*p*-toluene sulfonate of 2,4-hexadiyne-1,6-diol)

Du Yinglei, Wu Baimei and He Pingsheng 499 Photoacoustic study of PTS (bis-*p*-toluene sulfonate of 2,4-hexadiyne-1,6-diol) single crystal and its thermal properties

Total equilibrium

W. A. Oates and H. Wenzl 1363 Temperature–chemical potential diagrams for the representation of defect and phase equilibria in compound semiconductors—application to gallium arsenide

Transfer rate

A. R. Beattie 589 A lifetime in Auger transitions

Transition

Pouyan Shen and Lin-Gun Liu 1477 Phase behavior and compression of ZrO_2–5.04 wt.% CaO at high pressures

Transition alloys

J. C. Gachon 435 A comparison between computed and measured enthalpies of formation of binary transition alloys. Accuracy and relativity of model predictions

Transition metals

D. Prakash and J. C. Upadhyaya 91 Many-body forces in the lattice dynamics of some fcc transition metals

E. N. Maslen and M. G. Trefry 753 3*d* transition metals: electron promotion and the independent atom model

Transition temperature

J. Zink and K. Nagorny 1429 Mössbauer spectroscopic investigations of the magnetic properties of potassium thioferrate-III

Transport phenomena
C. M. Van Vliet and P. Vasilopoulos 639 The quantum Boltzmann equation and some applications to transport phenomena

Transverse freezing
J. K. Srivastava 115 Transverse freezing in powdered Fe_2TiO_5

Trapping
S. Fujita and J. Neugebauer 561 General theory of interstitial diffusion in crystals

Traps
J. S. Blakemore 627 Electron capture and emission for midgap centers

Minoru Ichimura, Hiroji Katsuta, Yasusi Sasajima and Mamoru Imabayashi 1259 Hydrogen and deuterium solubility in aluminum with voids

Trapped hole
J. D. Foot, F. A. Colbourn and C. R. A. Catlow 1225 Computer simulation of alkali metal trapped hole defects in alkaline earth oxides

Two-dimensional motions
H. T. Chu 1191 Two-dimensional motion of charge carriers in ultrathin films

Tunneling
P. K. Chakraborty, J. C. Biswas and C. L. Roy 125 A study of interband tunneling in a semiconductor in the presence of a magnetic field

Ultrathin films
H. T. Chu 1191 Two-dimensional motion of charge carriers in ultrathin films

Uranium intermetallics
A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

Uvite
Ali Tatli 981 Elastic constants of uvite: temperature dependence

Vacancies
S. T. Weidman and R. A. Johnson 243 Corrections for correlation during homogeneous void nucleation

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

Rex B. McLellan 1213 The thermodynamics of interstitial–vacancy interactions in solid solutions

Vacancy properties
S. M. Kim 65 Vacancy properties in ordered CoGa and FeAl

Valence band
Victor M. Ratag 9 The effect of bond-angle and dihedral-angle disorders on the top of the valence band of amorphous silicon

Valence force field
Victor A. Maroni 307 Valence force field treatment of the rutile structure at zero-wave vector

S. Mancour et P. Caillet 1071 Modes de vibration et liaisons chimiques dans des composés $M^{II}Mo_6X_{14}$

Vanadium
Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Vanadium carbides
V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

Vanadium nitride

W. Lengauer 59 Interdependency of composition and T_c of δ-VN_{1-x} and the influence and determination of its nitrogen surface diffusion layers

Viscosity

C. A. Angell 863 Perspective on the glass transition

Vitrification

C. A. Angell 863 Perspective on the glass transition

Voids

King-Sun David Wu and D. E. Beck 233 The optical calculation of the surface plasma modes for metal spheres and voids in metals

S. T. Weidman and R. A. Johnson 243 Corrections for correlation during homogeneous void nucleation

Water librations

P. Diatto, M. Martini and G. Spinolo 1139 Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

Wüstite

P. Gerdanian 819 A new $\Delta H(O_2)$ determination method by high-temperature microcalorimetry study of oxide–oxido-reducing gaseous mixtures reaction. Application to wüstite

Xanthene

T. Endo, N. Nakada, T. Sato and M. Shimada 1423 Fluorescence of clay-intercalated xanthene dyes

XANES

Chikara Sugiura, Michihide Kitamura and Shinji Muramatsu 1095 Niobium L_{III} and L_{II} X-ray absorption-edge spectra of Nb_2O_5 and NH_4NbF_6

X-ray damaged crystals

C. Edward Bailey 1287 An EPR study of NH_2D^+ in deuterated ammonium sulphate

X-ray diffraction

V. Leute and H. M. Schmidtke 409 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$—I. Investigations by X-ray diffraction and differential thermoanalysis

E. H. P. Cordfunke and D. J. W. IJdo 551 $Ba_2U_2O_7$; crystal structure and phase relationships

Mark E. Cavaleri, Thomas G. Plymate and James H. Stout 945 A pressure–volume–temperature equation of state for Sn(β) by energy dispersive X-ray diffraction in a heated diamond-anvil cell

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri 1339 Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

X-ray factors

L. C. Balbás, A. Rubio, J. A. Alonso, N. H. March and G. Borstel 1013 X-ray scattering factors of crystalline silicon and germanium from a bond charge model

YAG (yttrium aluminum garnet)

K. Chakrabarti 1009 Photobleaching and photoluminescence in neutron-irradiated YAG

Zero field splitting

J. M. Dance, A. Wichainchai, P. Dordor, E. Marquestaut, J. P. Doumerc and A. Ammar 377 Determination of the zero field splitting and exchange narrowing of EPR linewidth in Cr^{3+} delafossite-type oxides

Zinc

H. G. Grimmeiss and M. Kleverman 615 Local Auger effects at point defects in silicon

Zinc sulphide

R. D. Singh, N. V. Unnikrishnan and M. Matera 79 Pulsed laser induced photoconductivity in ZnS—Part I

Zirconium

Shean-Jyeh Mu, Juh Tzeng Lue and **In-Chin Wu** 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Pouyan Shen and **Lin-Gun Liu** 1477 Phase behavior and compression of ZrO_2–5.04 wt.% CaO at high pressures

CHEMICAL INDEX

Ag

D. Prakash and **J. C. Upadhyaya** 91 Many-body forces in the lattice dynamics of some fcc transition metals

G. Perrin and **M. Delannoy-Coutris** 1397 Generalized Anderson–Grüneisen parameters for cubic solids

Ag–Au : O

Z. A. Matysina, M. I. Milyan and **S. Yu. Zaginaichenko** 737 The solubility of interstitial impurities

AgTlTe

R. M. Ayral-Marin, B. Liautard, M. Maurin, J. C. Tedenac et **G. Brun** 939 AgTlTe—étude de la zone de solution solide et de ses modifications structurales

Al

Y. Sakamoto, O. Shimizu, K. Hirayama and **K. Baba** 897 The diffusivity of hydrogen in nickel-based solid solutions

Al–Fe

S. R. Dhanalakshmi, T. Nagarajan, S. Ramasamy, S. Srinivasan and **J. A. Sekhar** 15 Positron annihilation and Mössbauer effect studies in rapidly solidified aluminium based iron misch metal alloys

Al–D

Minoru Ichimura, Hiroji Katsuta, Yasusi Sasajima and **Mamoru Imabayashi** 1259 Hydrogen and deuterium solubility in aluminum with voids

Al–H

Minoru Ichimura, Hiroji Katsuta, Yasusi Sasajima and **Mamoru Imabayashi** 1259 Hydrogen and deuterium solubility in aluminum with voids

^{27}Al

Kiyofumi Hirokawa and **Yoshihiro Furukawa** 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with compositions of $(NH_4)_{3-x}K_x[AlF_6]$ ($x = 1, 2$) as studied by ^{1}H, ^{19}F, and ^{27}Al nuclear magnetic resonance

AlP

T. L. Yeap and **A. K. Koh** 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

AlSb

R. Eppenga, M. F. H. Schuurmans and **H. W. A. M. Rompa** 1119 *Ab-initio* determinations of semiconductor spin-orbit splittings from ASW

T. L. Yeap and **A. K. Koh** 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

AlSi

Xi Xiao-Xing, Ran Qi-Ze, Liu Jia-Rui and **Guan Wei-Yan** 1125 Ion beam mixing: a new method in the study of metastable superconductors

Au

D. Prakash and **J. C. Upadhyaya** 91 Many-body forces in the lattice dynamics of some fcc transition metals

G. Perrin and **M. Delannoy-Coutris** 1397 Generalized Anderson–Grüneisen parameters for cubic solids

AuCu

P. Jacobsson and **B. Sundqvist** 441 Pressure dependence of the thermal and electrical conductivities of the intermetallic compounds AuCu and $AuCu_3$

$AuCu_3$

P. Jacobsson and **B. Sundqvist** 441 Pressure dependence of the thermal and electrical conductivities of the intermetallic compounds AuCu and $AuCu_3$

β-BaB_2O_4

Jun Qing Lu, Guo Xiang Lan, Bing Li, Yan Yong Yang, Hua Fu Wang and Bai Chang Wu — 519 Raman scattering study of the single crystal β-BaB_2O_4 under high pressure

BaF_2

J. I. Peña, P. J. Alonso and R. Alcalá — 273 Radiation effects in hydrolysed CaF_2, SrF_2 and BaF_2

$BaFeSi_4O_{10}$

Zhou Yi-Yang — 851 Spectra of gillespite, $BaFeSi_4O_{10}$, at high pressure

$BaLaGa_3O_7$

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski — 199 Optical properties and lasing of $BaLaGa_3O_7$ single crystals doped with neodymium

$Ba_2U_2O_7$

E. H. P. Cordfunke and D. J. W. IJdo — 551 $Ba_2U_2O_7$: crystal structure and phase relationships

$Ba_2YCu_3O_7$

D. E. Cox, A. R. Moodenbaugh, J. J. Hurst and R. H. Jones — 47 A neutron powder diffraction study of $Ba_2YCu_3O_7$

Be^{2+}:LiF

A. B. Vassilikou-Dova — 855 Dipole aggregation in LiF doped with Be^{2+}

$Bi_{12}SiO_{20}$

Tinh Nguyet Nguyen and Mieczysław Tadeusz Borowiec — 1379 The kinetics of the photochromic effect in $Bi_{12}SiO_{20}$:Mn

Bi_2Te_3

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer — 1237 Thermal properties of high quality single crystals of bismuth telluride —Part I: experimental characterization

J. P. Fleurial, L. Gailliard, R. Triboulet, H. Scherrer and S. Scherrer — 1249 Thermal properties of high quality single crystals of bismuth telluride —Part II: mixed-scattering model

$Bi_{1-x}Te_x (0.3 \leqslant x \leqslant 0.6)$

M. M. Ibrahim, N. Afify, M. M. Hafiz and M. A. Mahmoud — 1127 D.C. electrical conductivity of bulk specimens of the system $Bi_{1-x}Te_x$

Br

M. A. Ahmed and F. A. Radwan — 1385 Electrical conductivity of the compounds $(CH_2)_n(NH_3)_2FeCl_{4-x}Br_x$ ($n = 8, 9$ and 10, $x = 0$, 1 and 2)

C

S. Fujita and J. Neugebauer — 561 General theory of interstitial diffusion in crystals

C:Fe–Ni

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko — 737 The solubility of interstitial impurities

$C_{12}H_8$

Hongxing He and T. R. Welberry — 421 Calculation of elastic constants for crystalline acenaphthylene, $C_{12}H_8$, using semi-empirical atom–atom potentials

$CaO–ZrO_2$

Pouyan Shen and Lin-Gun Liu — 1477 Phase behavior and compression of ZrO_2–5.04wt.% CaO at high pressures

$Ca_{10}(PO_4)_6(OH)_2$

N. Hitmi, C. LaCabanne and R. A. Young — 541 OH^- reorientability in hydroxyapatites: effect of F^- and Cl^-

CaF_2

J. I. Peña, P. J. Alonso and R. Alcalá — 273 Radiation effects in hydrolysed CaF_2, SrF_2 and BaF_2

$CaFe_4O_7$

R. Gérardin, E. Millon, A. Bonazebi, J. F. Brice, F. Jeannot et O. Evrard — 343 Structures et propriétés magnétiques des ferrites de calcium pseudo hexagonaux $Ca_4Fe_9O_{17}$, $CaFe_4O_7$ et $Ca_3Fe_{15}O_{25}$

$Ca_3Fe_{15}O_{25}$

R. Gérardin, E. Millon, A. Bonazebi, J. F. Brice, F. Jeannot et O. Evrard — 343 Structures et propriétés magnétiques des ferrites de calcium pseudo hexagonaux $Ca_4Fe_9O_{17}$, $CaFe_4O_7$ et $Ca_3Fe_{15}O_{25}$

$Ca_4Fe_9O_{17}$

R. Gérardin, E. Millon, A. Bonazebi, J. F. Brice, F. Jeannot et O. Evrard — 343 Structures et propriétés magnétiques des ferrites de calcium pseudo hexagonaux $Ca_4Fe_9O_{17}$, $CaFe_4O_7$ et $Ca_3Fe_{15}O_{25}$

$(CD_3ND_3)_2[SnCl_6]$

Takasuke Matsuo, Hai-Ke Yan and Hiroshi Suga — 85 Calorimetric study of the phase transition in deuterated methylammonium hexachlorostannate

CdTe

H. Chacham, J. L. A. Alves, M. L. De Siqueira and José R. Leite — 969 Electronic structure of cationic core excitons in II–VI semiconductors

T. L. Yeap and A. K. Koh — 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

CdS

T. L. Yeap and A. K. Koh — 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

CdSe

T. L. Yeap and A. K. Koh — 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

$CdWO_4$

Z. Burshtein, S. Morgan, D. O. Henderson and E. Silberman — 1295 Spatial dispersion in polariton spectra of cadmium tungstate ($CdWO_4$) single crystals

$Cd_{1-x}Zn_xSe$

A. K. Koh — 993 Isotropic hyperfine coupling constant in manganese-doped $Cd_{1-x}Zn_xSe$

$(CH_2)_n(NH_3)_2FeCl_{4-x}Br_x$

M. A. Ahmed and F. A. Radwan — 1385 Electrical conductivity of the compounds $(CH_2)_n(NH_3)_2FeCl_{4-x}Br_x$ ($n = 8$, 9 and 10, $x = 0$, 1 and 2)

$(CH_3)_2NH_2NO_3$

M. Mylrajan and T. K. K. Srinivasan — 929 Raman and infrared studies of structural phase transition in $(CH_3)_2NH_2NO_3$

Cl

N. Hitmi, C. LaCabanne and R. A. Young — 541 OH^- reorientability in hydroxyapatites: effect of F^- and Cl^-

M. A. Ahmed and F. A. Radwan — 1385 Electrical conductivity of the compounds $(CH_2)_n(NH_3)_2FeCl_{4-x}Br_x$ ($n = 8$, 9 and 10, $x = 0$, 1 and 2)

Co

A. R. Chetal, P. Mahto and P. R. Sarode — 279 Chemical-shift of the X-ray K-absorption edge of Co in some compounds, complexes and minerals

Y. Sakamoto, O, Shimizu, K. Hirayama and K. Baba — 897 The diffusivity of hydrogen in nickel-based solid solutions

M. Devillers, J. Ladrière and D. Apers — 909 ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

^{57}Co

M. Devillers, J. Ladrière and D. Apers — 909 ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

$CoAs_3$

G. Kliche and W. Bauhofer — 267 Far-infrared reflection spectra and electrical properties of the skutterudite $CoAs_3$

$CoBr_2 \cdot 6H_2O$

P. Diatto, M. Martini and G. Spinolo — 1469 Far-infrared absorption spectra of Ni, Co and Fe dihalides

$CoCl_2 \cdot 6H_2O$

P. Diatto, M. Martini and G. Spinolo — 1139 Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

P. Diatto, M. Martini and G. Spinolo — 1469 Far-infrared absorption spectra of Ni, Co and Fe dihalides

CoGa

S. M. Kim — 65 Vacancy properties in ordered CoGa and FeAl

$Co_{1-x}O$

H. Boussetta and C. Monty — 369 Magnesium impurity diffusion in $Co_{1-x}O$ single crystals

$CoSi_2$

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu — 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

Cr

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba — 897 The diffusivity of hydrogen in nickel-based solid solutions

Cr^{3+}

J. M. Dance, A. Wichainchai, P. Dordor, E. Marquestaut, J. P. Doumerc and A. Ammar — 377 Determination of the zero field splitting and exchange narrowing of EPR linewidth in Cr^{3+} delafossite-type oxides

$Cr^{3+}:K_3Co(CN)_6$

He Xiao-Peng and Du Mao-Lu — 339 Theoretical studies on the EPR of $K_3Co(CN)_6:Cr^{3+}$

Cu

D. Prakash and J. C. Upadhyaya — 91 Many-body forces in the lattice dynamics of some fcc transition metals

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba — 897 The diffusivity of hydrogen in nickel-based solid solutions

G. Perrin and M. Delannoy-Coutris — 1397 Generalized Anderson–Grüneisen parameters for cubic solids

$CuAl_{0.99}Cr_{0.01}O_2$

J. M. Dance, A. Wichainchai, P. Dordor, E. Marquestaut, J. P. Doumere and A. Ammar — 377 Determination of the zero field splitting and exchange narrowing of EPR linewidth in Cr^{3+} delafossite-type oxides

$Cu^{2+}:AgCl$

S. S. Goldenberg, M. D. Kellam and L. M. Slifkin — 773 Luminescent recombination processes of the self-trapped hole in copper-doped silver chloride

$CuGaSe_2$

P. P. Lottici, G. Antonioli and C. Razzetti — 1459 An EXAFS study of the effective interactions between third neighbours in chalcopyrite $CuGaSe_2$

$CuInSe_2$

C. Rincón — 391 On the deformation potentials in $CuInSe_2$ ternary semiconductors

$DyCo_{5.2}$

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. I. Arnaudas — 213 Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

Er_2O_3

Keu Hong Kim, Do Young Yim, Sung Ho Park and Jae Shi Choi — 151 Electrical conductivity of the system $XZrO_2 + (1-X)Er_2O_3$; $0.005 \leqslant X \leqslant 0.15$

Er^{3+}:(K, Na) phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 133 Optical absorption spectra of Pr(III), Nd(III), Er(III) and Tm(III) ions in potassium sodium phosphate glass

Er^{3+}: Na acetate phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in aceto-phosphate glass

$EuCo_2P_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

$EuFe_2P_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

$EuNi_2P_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

F

N. Hitmi, C. LaCabanne and R. A. Young 541 OH^- reorientability in hydroxyapatites: effect of F^- and Cl^-

^{19}F

Kiyofumi Hirokawa and Yoshihiro Furukawa 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with compositions of $(NH_4)_{3-x}K_x[AlF_6]$ ($x = 1, 2$) as studied by ^1H, ^{19}F, and ^{27}Al nuclear magnetic resonance

Fe

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba 897 The diffusivity of hydrogen in nickel-based solid solutions

M. Devillers, J. Ladrière and D. Apers 909 ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

FeAl

S. M. Kim 65 Vacancy properties in ordered CoGa and FeAl

$FeCl_2 \cdot 4H_2O$

P. Diatto, M. Martini and G. Spinolo 1139 Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

P. Diatto, M. Martini and G. Spinolo 1469 Far-infrared absorption spectra of Ni, Co and Fe dihalides hydrates

Fe–Cu–N alloys

Clearence Ko and Rex B. McLellan 1219 Thermodynamics of austenitic Fe–Cu–N solid solutions

$FeF_2 \cdot 4H_2O$

P. L. Crouse and C. M. Stander 1145 A conversion electron Mössbauer spectroscopic study of iron fluroide hydrate surface layers at low glancing angles

$FeF_3 \cdot 3H_2O$

P. L. Crouse and C. M. Stander 1145 A conversion electron Mössbauer spectroscopic study of iron fluoride hydrate surface layers at low glancing angles

$FeF_5 \cdot 7H_2O$

P. L. Crouse and C. M. Stander 1145 A conversion-electron Mössbauer spectroscopic study of iron fluoride hydrate surface layers at low glancing angles

$Fe_3H_{15}(PO_4)_8 \cdot 5H_2O$

W. Meisel, J. Mintjens and W. P. Bosman 157 Hyperfine interactions in an oxonium ferric orthophosphate

$Fe_{16}N_2$

A. Sato, Y. Watanabe and T. Mura — 529 Octahedral defects in a b.c.c. lattice examined by lattice theory

$Fe_{1-x}O$

P. Gerdanian — 819 A new $\Delta H(O_2)$ determination method by high-temperature microcalorimetry study of oxide–oxido-reducing gaseous mixtures reaction. Application to wüstite

Fe_2P

J. Sjöström — 827 Magnetic instability and crystalline field anisotropy in the space group $P\bar{6}2m$ with application to Fe_2P

Fe_7S_8

D. E. Tsatis — 359 Thermal expansion of pyrrhotite (Fe-S_8) at high temperatures

Fe_2TiO_5

J. K. Srivastava — 115 Transverse freezing in powdered Fe_2TiO_5

GaAs

D. C. Look and J. W. Farmer — 97 The type-conversion phenomenon phenomenon in electron-irradiated GaAs

Manvir S. Kushwaha — 165 Collective excitations in periodic semiconductor multiheterostructures

J. S. Blakemore — 627 Electron capture and emission for midgap centers

M. R. Burd and R. Braunstein — 731 Deep levels in semi-insulating liquid encapsulated Czochralski-grown GaAs

G. Massé, M. F. Lawrence and J. M. Lacroix — 1349 Dominant donor trap in *n*-type epitaxial GaAs grown by CSVT

W. A. Oates and H. Wenzl — 1363 Temperature–chemical potential diagrams for the representation of defect and phase equilibria in compound semiconductors—application to gallium arsenide

T. L. Yeap and A. K. Koh — 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

$Ga_{1.78}Cr_{0.89}S_4$

H. Haeuseler, W. Kwarteng-Acheampong and M. Jung — 767 Crystal structure and electrical conductivity of $Ga_{1.78}Cr_{0.89}S_4$

GaP

T. A. Vanderah and R. A. Nissan — 1335 ^{31}P MAS NMR of a II–IV–V_2 chalcopyrite-type series

T. L. Yeap and A. K. Koh — 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

GaP:N

V. Vorlíček, I. Gregora, V. Riede and H. Neumann — 797 Raman scattering study of GaP:N epitaxial layers

GaSb

T. L. Yeap and A. K. Koh — 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

Gd

Jagannadham Akella, Gordon S. Smith and Andrew P. Jephcoat — 573 High-pressure phase transformation studies in gadolinium to 106 GPa

H. T. Hintzen and H. M. van Noort — 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

Gd_2O_3

Keu Hong Kim, Sung Ho Park, Jae Shi Choi and Kyung Woo Hyung — 1019 Electrical conductivity of the solid solution $Th_xGd_{2-2x}O_{3-x}$

Gd_2O_{3+2x}

Chul Hyun Yo, Cheol Woo Kim, Eun Seok Lee, Woong Bum Pyon and Jae Shi Choi 835 A study of the nonstoichiometry and electrical conductivity of gadolinium sesquioxide

Ge

J. G. Kang, S. K. Ju, Y. H. Gill, I. K. Shim and C. K. Chang 813 Emission and excitation spectra from divalent Ge ions in KCl single crystals

Ge^{2+}:KCl

J. G. Kang, S. K. Ju, Y. H. Gill, I. K. Shim and C. K. Chang 813 Emission and excitation spectra from divalent Ge ions in KCl single crystals

H

A. L. Dawar, C. Jagadish, P. K. Shishodia, Sanjay Sharma, S. K. Kapoor, B. K. Sachar and P. C. Mathur 113 Effect of hydrogen on the electrical properties of *p*-type $Pb_{0.8}Sn_{0.2}Te$ thin films

M. Yoshihara and R. B. McLellan 401 Thermodynamic study of the palladium–yttrium–hydrogen system

H. Murakami, I. Kanazawa, M. Sano, T. Enoki and H. Inokuchi 457 Hydrogen in a graphite–rubidium intercalation compound RbC_8 studied by positron annihilation

H:Fe–V

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko 737 The solubility of interstitial impurities

H:Ni_3–Fe

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko 737 The solubility of interstitial impurities

^1H

Kiyofumi Hirokawa and Yoshihiro Furukawa 1047 Phase transitions and ionic motions in ammonium potassium hexafluoroaluminates(III) with compositions of $(NH_4)_{3-x}[AlF_6]$ ($x = 1, 2$) as studied by ^1H, ^{19}F, and ^{27}Al nuclear magnetic resonance

H:Pd–Ni

Z. A. Matysina, M. I. Milyan and S. Yu. Zaginaichenko 737 The solubility of interstitial impurities

H:Pd–Pt

Z. A. Matysina, M. I. Milyan and S. Yu Zaginaichenko 737 The solubility of interstitial impurities

$Hg_{(3-3k)}In_{2k}Te_3$

V. Leute and H. M. Schmidtke 409 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$—I. Investigations by X-ray diffraction and differential thermoanalysis

Volkmar Leute and Heinrich Michael Schmidtke 1317 Thermodynamics and kinetics of the quasibinary system $Hg_{(3-3k)}In_{2k}Te_3$—II. Investigations by electron microprobe measurements

HgS

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

HgTe

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

HgSe

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

$HoCo_5$

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. I. Arnaudas 213 Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

In

H. T. Hintzen and H. M. van Noort 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

InAs

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

InP

Manvir S. Kushwaha 165 Collective excitations in periodic semiconductor multiheterostructures

R. Eppenga, M. F. H. Schuurmans and H. W. A. M. Rompa 1119 *Ab-initio* determinations of semiconductor spin-orbit splittings from ASW

T. A. Vanderah and R. A. Nissan 1335 ^{31}P MAS NMR of a II–IV–V_2 chalcopyrite-type series

T. L. Yeap and A. K. Koh 1337 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

InSb

Manvir S. Kushwaha 165 Collective excitations in periodic semiconductor multiheterostructures

M. Oszwałdowski and M. Zimpel 1179 Temperature dependence of intrinsic carrier concentration and density of states effective mass of heavy holes in InSb

T. L. Yeap and A. K. Koh 1377 Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

β-$KBiF_4$

S. F. Matar, J. M. Reau, P. Laborde and A. Rhandour 285 Static modelling of the fast ion conductors β-$KBiF_4$ and γ-$RbBiF_4$

K–Cs

N. Nafari and M. P. Das 997 A model for bimetallic interfaces—II

$KClO_4$

S. C. Deevi 323 Importance of local heating in the compaction of thermally sensitive solids

KCl–KBr

R. Rodríguez-Mijangos and C. Ruiz Mejía 505 F band shift in mixed alkali halide crystals

KCl–RbCl

R. Rodriguez-Mijangos and C. Ruiz Mejía 505 F band shift in mixed alkali halide crystals

$KFeS_2$

J. Zink and K. Nagorny 1429 Mössbauer spectroscopic investigations of the magnetic properties of potassium thioferrate-III

KI

M. L. Dalal, S. Sivaraman and Y. V. G. S. Murti 223 Space charge limited current (SCLC) in alkali halide crystals during electrolytic coloration

$KNbO_3$

K. J. Smolander 1167 Electrostatical properties of the ferroelectric phases of $KNbO_3$

K–Rb

N. Nafari and M. P. Das 997 A model for bimetallic interfaces—II

La

H. T. Hintzen and H. M. van Noort 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

$LaCo_2P_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko — 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

$LaFe_2P_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko — 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

β-$LaNb_3O_9$

A. M. George and A. N. Virkar — 743 Mixed iono-electronic conduction in β-$LaNb_3O_9$

$La_{2-x}Sr_xCoO_4$

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki — 1403 Electrical properties of $La_{2-x}Sr_xCoO_4$—I: Structure, electrical conductivity, and Seebeck coefficient of single crystals ($x = 0.0$, 0.5, 1.0 and 1.5)

Takashi Matsuura, Junji Tabuchi, Junichiro Mizusaki, Shigeru Yamauchi and Kazuo Fueki — 1409 Electrical properties of $La_{2-x}Sr_xCoO_4$—II: Models and analysis of the relationship between cobalt $3d$ electron state and structural, electrical and magnetic properties

$La_{8-x}Sr_xCu_8O_{20-\varepsilon}$

C. Michel, L. Er-Rakho and B. Raveau — 451 $La_{8-x}Sr_xCu_8O_{20-\varepsilon}$: a metallic conductor belonging to the family of the oxygen-deficient perovskites

$Li_2Ca_{0.5}Ti_2(PO_4)_3$

A. El Jazouli, A. Nadiri, J. M. Dance, C. Delmas and G. Le Flem — 779 Relationships between structure and magnetic properties of titanium(III) Nasicon-type phosphates

$Li_{0.8}CdFe_2O_4$

H. Eckert, C. J. Chen, M. Greenblatt and R. H. Herber — 71 Electron hopping in lithiated spinels: a temperature dependent Mössbauer study

$LiCsSO_4$

Jiang-Tsu Yu, Shen-Yuan Chou and Shu-Jeu Huang — 289 Low-temperature phase transitions of $LiCsSO_4$: ESR of $\dot{N}H_3^+$ and Cr^{5+}

LiF

A. Shluger, S. Mysovsky and A. Nepomnyaschikh — 1043 Formation of self-trapped holes under optical excitation of impurity centres in LiF crystals

$[xLi_2O\cdot(1-x)Na_2O]$–$2B_2O_3$

Masaki Maeda and Takuro Ikeda — 35 The glass transition and crystallization of amorphous $[xLi_2O\cdot(1-x)Na_2O]$–$2B_2O_3$

$Li(Ta, Mg)(O, F, OH)_3$

Zu-Guang Ye, R. Von Der Mühll, J. Ravez et P. Hagenmuller — 1153 Etudes physico-chimiques d'une nouvelle phase hydroxofluorée ferroélectrique de type $LiTaO_3$

$LiTaO_3$

Zuo-Guang Ye, R. Von Der Mühll, J. Ravez et P. Hagenmuller — 1153 Etudes physico-chimiques d'une nouvelle phase hydroxofluorée ferroélectrique de type $LiTaO_3$

$Li_3Ti_2(PO_4)_3$

A. El Jazouli, A. Nadiri, J. M. Dance, C. Delmas and G. Le Flem — 779 Relationships between structure and magnetic properties of titanium(III) Nasicon-type phosphates

Lu

H. T. Hintzen and H. M. van Noort — 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

Mg

H. Boussetta and C. Monty — 369 Magnesium impurity diffusion in $Co_{1-x}O$ single crystals

M. Devillers, J. Ladrière and D. Apers 909 ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

$MgSiO_3$

S. K. Saxena 1233 Assessment of thermal expansion, bulk modulus, and heat capacity of enstatite and forsterite

Mg_2SiO_4

S. K. Saxena 1233 Assessment of thermal expansion, bulk modulus, and heat capacity of enstatite and forsterite

Mn

M. Devillers, J. Ladrière and D. Apers 909 ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

$Mn:Bi_{12}SiO_{20}$

Tinh Nguyet Nguyen and Mieczysław Tadeusz Borowiec 1379 The kinetics of the photochromic effect in $Bi_{12}SiO_{20}$:Mn

$Mn_xCd_{1-x}F_2 (0 \leqslant x \leqslant 0.26)$

Andrzej Król and Krzysztof Świątek 1197 Long-wavelength optical lattice vibrations in $Mn_xCd_{1-x}F_2$ fluorides

$Mn_{1-\gamma}Fe_{2+\gamma}O_4$

Han-Ill Yoo and Harry L. Tuller 761 Analytic calculation of cation distributions in ferrite spinel $Mn_{1-\gamma}Fe_{2-\gamma}O_4$

MnP

A. Zięba, H. Fjellvåg and A. Kjekshus 1087 Magnetic phase diagrams and properties of transition metal substituted MnP

Mo

A. Zięba, H. Fjellvåg and A. Kjekshus 1087 Magnetic phase diagrams and properties of transition metal substituted MnP

N

S. Fujita and J. Neugebauer 561 General theory of interstitial diffusion in crystals

Na-β-alumina

S. A. Akbar 585 Hopping conduction in Na-β-alumina: temperature dependence

NaBr

M. L. Dalal, S. Sivaraman and Y. V. G. S. Murti 223 Space charge limited current (SCLC) in alkali halide crystals during electrolytic coloration

NaCl

M. L. Dalal, S. Sivaraman and Y. V. G. S. Murti 223 Space charge limited current (SCLC) in alkali halide crystals during electrolytic coloration

R. Rodriguez-Mijangos and C. Ruiz Mejía 505 F band shift in mixed alkali halide crystals

NaHCOO

A. M. Heyns, O. T. van Niekerk, P. W. Richter and K.-J. Range 1133 The polymorphism of alkali metal formates—Part I. A Raman study of the II–I transition in NaHCOO

$Na_3Ti_2(PO_4)_3$

A. El Jazouli, A. Nadiri, J. M. Dance, C. Delmas and G. Le Flem 779 Relationships between structure and magnetic properties of titanium(III) Nasicon-type phosphates

NbC

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

NbC–Be

A. L. Ivanovsky, D. L. Novikov, V. I. Anisimov and V. A. Gubanov 487 The influence of structural defects on the electronic properties of interstitial alloys—III. Non-metal substitutional impurities

Nb–Mo

J. Grammatikakis and C. A. Londos 1465 Compressibilities of niobium alloys

Nb_2O_5

Chikara Sugiura, Michihide Kitamura and Shinji Muramatsu 1095 Niobium L_{III} and L_{II} X-ray absorption-edge spectra of Nb_2O_5 and NH_4NbF_6

Nb–Zr

J. Grammatikakis and C. A. Londos 1465 Compressibilities of niobium alloys

Nd

W. Ryba-Romanowski, B. Jeżowska-Trzebiatowska, W. Piekarczyk and M. Berkowski 199 Optical properties and lasing of $BaLaGa_3O_7$ single crystals doped with neodymium

$Nd_3Ga_5O_{12}$

C. K. Jayasankar, F. S. Richardson, P. Porcher and J. Ostorero 975 Spin-correlated crystal-field analysis and temperature-dependent paramagnetic susceptibility of neodymium gallium garnet

Nd^{3+} : (K, Na) phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 133 Optical absorption spectra of Pr(III), Nd(III), Er(III) and Tm(III) ions in potassium sodium phosphate glass

Nd^{3+} : Na acetate phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in aceto-phosphate glass

$NdCo_5$

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. I. Arnaudas 213 Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

NH_4ClO_4

S. C. Deevi 323 Importance of local heating in the compaction of thermally sensitive solids

$[NH_3(CH_2)_5NH_3]MnCl_4$

K. Chhor, L. Abello, C. Pommier and C. Sourisseau 1079 Reorientational motions in a perovskite-type layer compound $[NH_3(CH_2)_5NH_3]MnCl_4$. A calorimetric study

NH_4NbF

Chikara Sugiura, Michihide Kitamura and Shinji Muramatsu 1095 Niobium L_{III} and L_{II} X-ray absorption-edge spectra of Nb_2O_5 and NH_4NbF_6

NH_4NO_3

R. A. Dalterio and F. J. Owens 1303 Laser Raman study of lattice modes of high temperature tetragonal to cubic transition in ammonium nitrate

$(NH_4)_2SO_4$

C. Edward Bailey 1287 An EPR study of NH_2D^+ in deuterated ammonium sulphate

Ni

M. Devillers, J. Ladrière and D. Apers 909 ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

A. Zięba, H. Fjellvåg and A. Kjekshus 1087 Magnetic phase diagrams and properties of transition metal substituted MnP

^{57}Ni

M. Devillers, J. Ladrière and D. Apers 921 Emission Mössbauer study of ^{57}Fe in ^{57}Ni-labelled nickel(II) oxalate dihydrate

$Ni_2CdCl_6 \cdot 12H_2O$

Anuradha Gupta, Dibyendu Talapatra, P. K. Majumdar, R. K. Mukherjee and Asok K. Banerjee 1269 Low temperature polarized absorption spectra for Ni^{2+} in trigonal $Ni_2CdCl_6 \cdot 12H_2O$ single crystals

$NiCl_2 \cdot 6H_2O$

P. Diatto, M. Martini and G. Spinolo 1139 Librational spectra of water molecules in Ni, Co and Fe dichloride hydrates

P. Diatto, M. Martini and G. Spinolo 1469 Far-infrared absorption spectra of Ni, Co and Fe dihalides hydrates

$NiI_2 \cdot 6H_2O$

P. Diatto, M. Martini and G. Spinolo 1469 Far-infrared absorption sepctra of Ni, Co and Fe dihalides hydrates

Ni–Na

N. Nafari and M. P. Das 997 A model for bimetallic interfaces—II

Ni–Mn–O

Yu. V. Golikov and V. F. Balakirev 329 Phase equilibrium diagram of the system—Ni–Mn–O

$NiMn_2O_4$

M. S. Islam and C. R. A. Catlow 119 Structural and electronic properties of $NiMn_2O_4$

NiO

K. M. E. Miedzinska, B. R. Hollebone and J. G. Cook 1355 Optical properties and assignment of the absorption spectra of sputtered mixed valence nickel oxide films

Ni_3O_4

K. M. E. Miedzinska, B. R. Hollebone and J. G. Cook 1355 Optical properties and assignment of the absorption spectra of sputtered mixed valence nickel oxide films

P

F. Taulelle, C. Sanchez, J. Livage, A. Lachgar and Y. Piffard 299 High resolution solid state ^{31}P NMR in some antimony-phosphates

$Pb[Sc_{0.50}(Ti_{0.25}Te_{0.25})]O_3$

J. A. Alonso and I. Rasines 385 On the influence of the non-bonded pair of Pb(II) in the novel ordered perovskite $Pb[SC_{0.50}(Ti_{0.25}Te_{0.2})]O_3$

$Pb_{0.8}Sn_{0.2}Te$

A. I. Dawar, C. Jagadish, P. K. Shishodia, Sanjay Sharma, S. K. Kapoor, B. K. Sachar and P. C. Mathur 113 Effect of hydrogen on the electrical properties of *p*-type $Pb_{0.8}Sn_{0.2}Te$ thin films

PbTe

C. M. Pelletier, S. Roland, R. Granger and A. Lasbley 139 Acoustical deformation potential and effective mass in *n*-type lead telluride between 4 and 300 K

Pd

D. Prakash and J. C. Upadhyaya 91 Many-body forces in the lattice dynamics of some fcc transition metals

Pd–Y–H

M. Yoshihara and R. B. McLellan 401 Thermodynamic study of the palladium–yttrium–hydrogen system

$PrCo_5$

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. I. Arnaudas 213 Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

Pr^{3+}: (K, Na) phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 133 Optical absorption spectra of Pr(III), Nd(III), Er(III) and Tm(III) ions in potassium sodium phosphate glass

Pr^{3+}: Na acetate phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in aceto-phosphate glass

^{226}Ra

S. K. Pabi and H. Hahn 1035 A highly sensitive method for measurement of ^{222}Rn permeability in metals

γ-$RbBiF_4$

S. F. Matar, J. M. Reau, P. Laborde and A. Rhandour — 285 Static modelling of the fast ion conductors β-$KBiF_4$ and γ-$RbBiF_4$

RbC_8

H. Murakami, I. Kanazawa, M. Sano, T. Enoki and H. Inokuchi — 457 Hydrogen in a graphite–rubidium intercalation compound RbC_8 studied by positron annihilation

Rb–Cs

N. Nafari and M. P. Das — 997 A model for bimetallic interfaces—II

^{222}Rn

S. K. Pabi and H. Hahn — 1035 A highly sensitive method for measurement of ^{222}Rn permeability in metals

$Sb_{2-x}Bi_xTe_3$

Z. Starý, J. Horák, M. Stordeur and M. Stölzer — 29 Antisite defects in $Sb_{2-x}Bi_xTe_3$ mixed crystals

$Sb_{2-x}In_xTe_3$

J. Horák, Z. Starý, P. Lošťák and J. Pancíř — 191 Antisite defects in $Sb_{2-x}In_xTe_3$ mixed crystals

Sc

H. T. Hintzen and H. M. van Noort — 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

a–Si

Victor M. Ratag — 9 The effect of bond-angle and dihedral-angle disorders on the top of the valence band of amorphous silicon

Si

B. A. Joyce — 237 Molecular beam epitaxy: recent trends and future developments

H. G. Grimmeiss and M. Kleverman — 615 Local Auger effects at point defects in silicon

Y. Sakamoto, O. Shimizu, K. Hiravama and K. Baba — 897 The diffusivity of hydrogen in nickel-based solid solutions

SiO_2

A. Halperin and S. Katz — 577 Irradiation effects on the low-temperature thermoluminescence (TSL) of quartz crystals

$Sm^{3+}:LaCl_3$

H. C. Kandpal and K. C. Joshi — 555 Temperature-dependent energy transfer from $^5D_3$ and $^5D_4$ states of Tb^{3+} to Sm^{3+}

Sn

Thomas G. Plymate, James H. Stout and Mark E. Cavaleri — 1339 Pressure–volume–temperature behavior and heterogeneous equilibria of the non-quenchable body-centered tetragonal polymorph of metallic tin

β-Sn

Mark E. Cavaleri, Thomas G. Plymate and James H. Stout — 945 A pressure–volume–temperature equation of state for Sn(β) by energy dispersive X-ray diffraction in a heated diamond-anvil cell

$SrCo_2P_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko — 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

SrF_2

J. I. Peña, P. J. Alonso and R. Alcalá — 273 Radiation effects in hydrolysed CaF_2, SrF_2 and BaF_2

$SrFe_2P_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko — 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

$Ta_{1.8}Zr_{0.1}O_{4.7}$

Rune Bredesen and Per Kofstad 1205 The electrical conductivity of ZrO_2-doped L-Ta_2O_5

$Ta_{1.96}Zr_{0.02}O_{4.94}$

Rune Bredesen and Per Kofstad 1205 The electrical conductivity of ZrO_2-doped L-Ta_2O_5

$Tb^{3+}:LaCl_3$

H. C. Kandpal and K. C. Joshi 555 Temperature-dependent energy transfer from $^5D_3$ and $^5D_4$ states of Tb^{3+} to Sm^{3+}

$ThCr_2Si_2$

E. Mörsen, B. D. Mosel, W. Müller-Warmuth, M. Reehuis and W. Jeitschko 785 Mössbauer and magnetic susceptibility investigations of strontium, lanthanum and europium transition metal phosphides with $ThCr_2Si_2$ type structure

$Th_xGd_{2-2x}O_{3-x}$

Keu Hong Kim, Sung Ho Park, Jae Shi Choi and Kyung Woo Hyung 1019 Electrical conductivity of the solid solution $Th_xGd_{2-2x}O_{3-x}$

ThO_2

Keu Hong Kim, Sung Ho Park, Jae Shi Choi and Kyung Woo Hyung 1019 Electrical conductivity of the solid solution $Th_xGd_{2-2x}O_{3-x}$

ThO_2—Er_2O_3

Kyung Moon Choi, Keu Hong Kim and Jae Shi Choi 1027 Electrical conductivity of the system ThO_2—Er_2O_3

TlBr

L. De Luca, U. Giorgianni, P. Perillo and G. Saitta 363 Spectroscopic studies of complex ion centres in thallium bromide solutions

Ti

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba 897 The diffusivity of hydrogen in nickel-based solid solutions

TiC

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

Sehun Kim and R. Stanley Williams 1307 Mixed-basis band structure interpolation scheme applied to the rock-salt structure compounds TiC, TiN and TiO

TiC_x ($x = 0.75, 1.0$)

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

TiC–Be

A. L. Ivanovsky, D. L. Novikov, V. I. Anisimov and V. A. Gubanov 487 The influence of structural defects on the electronic properties of interstitial alloys—III. Non-metal substitutional impurities

TiC–Mo

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

$Ti_xNb_yC_z$

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

TiN

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

Sehun Kim and R. Stanley Williams 1307 Mixed-basis band structure interpolation scheme applied to the rock-salt structure compounds TiC, TiN and TiO

TiN_x ($x = 0.75, 1.0$)

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

TiN–Mo

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

TiN–Ni

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

TiO

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

Sehun Kim and R. Stanley Williams 1307 Mixed-basis band structure interpolation scheme applied to the rock-salt structure compounds TiC, TiN and TiO

Ti_4O_7

E. Iguchi, T. Yamamoto and R. J. D. Tilley 205 Bipolaron effects on the lattice energy of Ti_4O_7

TiO_x ($x = 0.75, 1.0$)

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

$Ti_xV_yC_z$

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

Tm^{3+}:(K, Na) phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 133 Optical absorption spectra of Pr(III), Nd(III), Er(III) and Tm(III) ions in potassium sodium phosphate glass

Tm^{3+}:Na acetate phosphate glass

S. V. J. Lakshman and A. Suresh Kumar 807 Lifetimes of laser lines of Pr^{3+}, Nd^{3+}, Er^{3+} and Tm^{3+} ions in aceto-phosphate glass

UFe_2Ge_2

A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

UFe_2Si_2

A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

UMn_2Ge_2

A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

UMn_2Si_2

A. Szytuła, S. Siek, J. Leciejewicz, A. Zygmunt and Z. Ban 1113 Neutron diffraction study of UT_2X_2 (T = Mn, Fe, X = Si, Ge) intermetallic systems

UO_2

D. A. MacInnes and P. W. Winter 143 The effect of the chemically inert fission products on the chemistry of irradiated UO_2

V

Y. Sakamoto, O. Shimizu, K. Hirayama and K. Baba — 897 The diffusivity of hydrogen in nickel-based solid solutions

VC

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov — 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

A. L. Ivanovsky, V. I. Anisimov, A. I. Lichtenstein and V. A. Gubanov — 479 The influence of structural defects on the electronic properties of interstitial alloys—II. Metal substitutional impurities

VC_x ($x = 0.75, 1.0$)

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen — 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

VN

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov — 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

δ-VN_{1-x}

W. Lengauer — 59 Interdependency of composition and T_c of δ-VN_{1-x} and the influence and determination of its nitrogen surface diffusion layers

VN_x ($x = 0.75, 1.0$)

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen — 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

VO

A. L. Ivanovsky, V. I. Anisimov, D. L. Novikov, A. I. Lichtenstein and V. A. Gubanov — 465 The influence of structural defects on the electronic properties of interstitial alloys—I. Lattice vacancies

VO_x ($x = 0.75, 1.0$)

V. P. Zhukov, V. A. Gubanov, O. Jepsen, N. E. Christensen and O. K. Andersen — 841 Calculated energy-band structures and chemical bonding in titanium and vanadium carbides, nitrides and oxides

VSi_2

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu — 1389 Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

W

Z. Zięba, H. Fjellvåg and A. Kjekshus — 1087 Magnetic phase diagrams and properties of transition metal substituted MnP

$XZrO_2$–$(1-X)Er_2O_3$

Keu Hong Kim, Do Young Yim, Sung Ho Park and Jae Shi Choi — 151 Electrical conductivity of the system $XZrO_2 + (1-X)Er_2O_3$; $0.05 \leqslant X \leqslant 0.15$

Y

H. T. Hintzen and H. M. van Noort — 873 Investigation of luminescent Eu-doped sesquioxides Ln_2O_3 (Ln = In, Sc, Y, La, Gd, Lu) and some mixed oxides by ^{151}Eu Mössbauer spectroscopy

$YBa_2Cu_3O_x$

H. Verweij and W. H. M. Bruggink — 1063 Precision determination of the stoichiometry parameter x of $YBa_2Cu_3O_x$

YCo_5

P. A. Algarabel, A. del Moral, M. R. Ibarra and J. I. Arnaudas — 213 Spin reorientation in $RECo_5$ compounds: a.c. susceptibility and thermal expansion

Zn

H. G. Grimmeiss and M. Kleverman — 615 Local Auger effects at point defects

M. Devillers, J. Ladrière and D. Apers — 909 ^{57}Fe emission Mössbauer study of matrix influence on the electron capture after-effects in ^{57}Co-doped dihydrated oxalates of some bivalent metals

$ZnGa_2Se_4$

P. P. Lottici, G. Antonioli and C. Razzetti — 1057 — Bond strengths in defect chalcopyrite $ZnGa_2Se_4$ by temperature dependence of EXAFS

$ZnGeP_2$

T. A. Vanderah and R. A. Nissan — 1335 — ^{31}P MAS NMR of a II–IV–V_2 chalcopyrite-type series

ZnO

G. Yaron, Y. Goldstein, A. Many, S. Z. Weisz and O. Resto — 887 — Persistent photoenhancement of hydrogen-implanted quantized accumulation layers on ZnO surfaces

ZnS

R. D. Singh, N. V. Unnikrishnan and M. Matera — 79 — Pulsed laser induced photoconductivity in ZnS—Part I

G. Blanc — 633 — Test of a distribution for electron trap lifetimes in ZnS which is related to the maximum entropy principle

H. Chacham, J. L. A. Alves, M. L. De Siqueira and José R. Leite — 969 — Electronic structure of cationic core excitons in II–VI semiconductors

T. L. Yeap and A. K. Koh — 1377 — Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

ZnSe

H. Chacham, J. L. A. Alves, M. L. De Siqueira and José R. Leite — 969 — Electronic structure of cationic core excitons in II–VI semiconductors

T. L. Yeap and A. K. Koh — 1377 — Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

$ZnSiP_2$

T. A. Vanderah and R. A. Nissan — 1335 — ^{31}P MAS NMR of a II–IV–V_2 chalcopyrite-type series

$ZnSnP_2$

T. A. Vanderah and R. A. Nissan — 1335 — ^{31}P MAS NMR of a II–IV–V_2 chalcopyrite-type series

ZnTe

H. Chacham, J. L. A. Alves, M. L. De Siqueira and José R. Leite — 969 — Electronic structure of cationic core excitons in II–VI semiconductors

T. L. Yeap and A. K. Koh — 1377 — Relationship between formula weight and the Szigeti charge in the II–VI and III–V semiconductors

$Zr_{0.9}Ca_{0.1}O_{1.9}$

Pouyan Shen and Lin-Gun Liu — 1477 — Phase behavior and compression of ZrO_2–5.04 wt.% CaO at high pressures

ZrO_2

Keu Hong Kim, Do Young Yim, Sung Ho Park and Jae Shi Choi — 151 — Electrical conductivity of the system $XZrO_2 + (1 - X)Er_2O_3$; $0.05 \leqslant X \leqslant 0.15$

Rune Bredesen and Per Kofstad — 1205 — The electrical conductivity of ZrO_2-doped L-Ta_2O_5

Pouyan Shen and Lin-Gun Liu — 1477 — Phase behavior and compression of ZrO_2–5.04 wt.% CaO at high pressures

$ZrSi_2$

Shean-Jyeh Mu, Juh Tzeng Lue and In-Chin Wu — 1389 — Microstructure and ellipsometry studies of vanadium, zirconium and cobalt silicides

JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS

AIMS & SCOPE

The *Journal of Physics and Chemistry of Solids* is an established international medium for the solid state sciences covering all aspects of the fundamental physics and chemistry of the solid state. Emphasis is placed upon experimental and theoretical work which elucidates the basic properties of and processes in condensed systems. Typical fields of interest are electronic, spectroscopic and structural properties of solids, and the statistical mechanics and thermodynamics of condensed systems. These systems include perfect and defect lattices, surfaces and interfaces, amorphous materials, and layered and low-dimensional structures. Invited topical Review Articles, Perspectives, which are brief invited discussions of new developments, and Special Issues in rapidly developing fields are also published.

NOTES FOR CONTRIBUTORS

I. GENERAL

1. Submission of a paper to the *Journal of Physics and Chemistry of Solids* will be taken to imply that it represents original research not previously published (except in the form of an abstract or preliminary report), that it is not being considered for publication elsewhere, and that if accepted it will not be published elsewhere in the same form, in any language, without the consent of the Editors. It should deal with original research work in the field of the physics and chemistry of solids.

2. Papers may be submitted directly to the editorial office or to the appropriate regional editor.

3. Short communications may be published as "Technical Notes" and will receive somewhat more rapid handling than full length articles. Short communications requiring the maximum speed of publication should be submitted to one of the editors of *Solid State Communications*.

4. Short papers, approximately two journal pages or less in length, may be submitted for the Software Survey Section. These papers should provide a brief description of the purpose and application of the program and its availability. For further details, see the editorial in Volume 46, page 1, or write to the Journal office.

5. *Reprints.* A reprint form will be sent with proofs. A voluntary page charge is in operation. Payment of the page charge is not a condition for publication.

II. SCRIPT REQUIREMENTS

1. **Papers** submitted should be concise and written in a readily understandable style. Scripts should be typed and double spaced with good margins on one side of the paper only and submitted in duplicate to facilitate refereeing.

It will be appreciated if authors clearly indicate any special characters used. An abstract not exceeding 200 words (100 words in the case of a Technical Note or article submitted for the Software Survey Section) should be provided in the language of the paper. French and German papers should be submitted with English abstract and titles, but if this is not possible the abstract will be translated by the publishers. Normally a brief description of experimental techniques and mathematical derivations is adequate; a detailed description should be given only when these are new. Between four to eight appropriate key words should be provided just below the abstract for subsequent use in computer data bases. References to internal reports and doctoral theses should be avoided. Authors will receive proofs for correction when their papers are first set, and **alterations must be restricted to printer's errors.** Other than these, any substantial changes may be charged to authors.

2. **Illustrations** should not be included in the typescript of the paper, and legends should be typed on a separate sheet. Line drawings which require redrawing should include all relevant details and clear instructions for the draughtsman. If figures are already well drawn it may be possible to reproduce them direct from the originals, or from good photo-prints if these can be provided. It is not possible to reproduce from prints with weak lines. Illustrations for reproduction should normally be about twice the final size required. The lettering should be sufficiently large and bold to permit this reduction. Photographs should only be included where they are essential.

3. **Tables and figures** should be so constructed as to be intelligible without reference to the text. Every table and column should be provided with an explanatory heading. Units of measure must always be clearly indicated.

In the interest of economy and in order to avoid the introduction of errors, tables will be reproduced by photo-offset means directly from the author's typed manuscripts. The guidelines detailed below should be followed:
1. Page size should be 8.5 × 11 in. (or 21 × 30 cm). 2. Large or long tables should be typed on continuing sheets. 3. Table headings should be typed on separate sheets but identifying numbers should be placed on the upper righthand corner of each sheet of tabular material. 4. Original typed tables are required. It will be the author's responsibility to prepare his tables in accordance with this procedure as no facilities exist at the Editorial Office for retyping. The same data should not be published in both tables and figures. The following standard symbols should be used on line drawings since they are easily available to the printers: ○●+×□■△▲◇◆▽▼.

4. **References** are indicated in the text by numbers on the line brackets, and the full reference should be given in a list at the end of the paper in the following form:

1. Barnes R. G., Borsa F. and Peteson D., *J. appl. Phys.* **36,** 940 (1965).
2. Knight W. D., *Solid State Physics* (Edited by F. Seitz and D. Turnbull), Vol. 2, p. 93. Academic Press, New York (1957).

Abbreviations of journal titles should follow those given in *World List of Scientific Periodicals* (1979).

Footnotes, as distinct from literature references, should be indicated by the following symbols—†, ‡, §, ¶, ‖, commencing anew on each page; they should *not* be included in the numbered reference system.

5. Due to the international character of the journal no rigid rules concerning notation and spelling will be observed, but each paper should be consistent within itself as to symbols and units.

The original manuscript and diagrams will be discarded one month after publication unless the Publisher is requested to return the original material to the author.

JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS

VOLUME 50 NUMBER 9 1989

CONTENTS—continued from outside back cover]

Enrique J. Baran, Anders G. Nord and Ekkehard Diemann 983 Electronic spectra and cationic distribution in the system $(Mg_{1-x}Co_x)_3(PO_4)_2$

985 Announcement

INDEXED/ABSTRACTED IN *Cam. Sci. Abstr., Chem. Abstr. Service, Current Contents, EIC Intel., Engrg. Ind. Monthly, INSPEC & PASCAL/CNRS Database, SSSA/CISA/ECA/ISMEC*

Published by
PERGAMON PRESS

ISSN 0022-3697
JPCSAW 50(9) 871–986 (1989)

OXFORD / NEW YORK / BEIJING / FRANKFURT / SÃO PAULO / SYDNEY / TOKYO / TORONTO